

The MOTOR OWNER



BRITISH EFFICIENCY

THE Vulcan O.H.V. "Twelve" meets the demand for speed, power and comfort. Without gear changing the steepest hills are easily climbed. Handsome and luxurious coachwork, allied with chassis construction of the finest quality, is an assurance of pleasurable motoring at unusually low cost.

Saloon Model with four wheel-brakes, Dunlop Balloon Tyres, and many refinements Price £475

THE VULCAN MOTOR & ENGINEERING CO. (1906) LTD., SOUTHPORT
LONDON—VULCAN MOTORS (LONDON) LTD., 118-122 GREAT PORTLAND STREET W.1

The
VULCAN
Twelve

September 1925

One Shilling

A Grave Motoring Risk! OIL SUBSTITUTION

BUYING oil from an unbranded package is a grave risk which no motorist need take. It may result in costly repairs and unduly rapid depreciation of the Car or Motor Cycle.

By asking for and insisting upon Mobiloil you secure a high grade lubricant of guaranteed uniformity and quality.

Don't ask for "A" or "BB" oil—you may be served with oil that is not genuine Mobiloil. Always ask for Mobiloil "A" or Mobiloil "BB," or whichever grade of Mobiloil is specified for your Car or Motor Cycle in the Chart of Recommendations.

Remember, there is no substitute for Mobiloil—no "just as good." The safest policy is to buy Mobiloil in sealed cans or drums, but if you prefer to buy from bulk see that the oil is drawn from a package bearing the trade mark shown below. A fair price to pay for Mobiloil from bulk is 1/9 per quart.



Mobiloil
Make the Chart your Guide



HEAD OFFICE: Caxton House, S.W.1
WORKS: Birkenhead and Wandsworth

BRANCH OFFICES: Belfast Bradford Cardiff Dundee Hull
Birmingham Bristol Dublin Glasgow Liverpool

Manchester
Newcastle-on-Tyne

VACUUM OIL COMPANY, LTD.

Telephone:
Regent 7500

Telegrams:
"Selanlet, Piccy, London"

HAMPTON & SONS

20, ST. JAMES' SQUARE, S.W.1

Branches { Wimbledon: 'Phone 80.
Hampstead: 'Phone 2727.

HANTS.

IN THE LOVELY DISTRICT TO THE NORTH OF BASINGSTOKE.
260 ft. above sea level; perfectly rural situation.

LOT 1.—"SPRINGFIELD," SHERBORNE ST. JOHN.

A compact Country Residence, with accommodation on two floors, comprising seven bedrooms, bathroom, hall, conservatory, two or three reception rooms, billiard-room, ample offices.

Stabling and Garages. Charming gardens, in all about $\frac{3}{4}$ Acre.

Electric Light available. Petrol Gas. Telephone.

VACANT POSSESSION.

LOT 2, adjoining.—A CENTURY OLD COTTAGE RESIDENCE.

Containing four bedrooms, two reception rooms, bathroom, offices, and old-time garden.

Also LOT 3.—A MEADOW WITH WATERCRESS BEDS AND STREAM.

To be SOLD, by AUCTION, at the St. James' Estate Rooms, 20, St. James' Square, S.W.1, on Tuesday, September 15th, 1925, at 2.30 p.m. (unless previously sold). In three separate lots.

Solicitors: Messrs. Royds, Rawstone and Co., 46, Bedford Square, London W.C.1.
Particulars of the Auctioneers, HAMPTON AND SONS, 20, St. James' Square, S.W.1.

EAST MOLESEY, SURREY.

One of the most accessible and attractive localities within 15 miles of Town, close to River, Hampton Court Palace, Bushey Park, Golf and Race Courses.

"THE HERMITAGE."

A FREEHOLD RESIDENCE of moderate size, approached by drive, and on two floors only, five bedrooms, three dressing rooms, bathroom, two or three reception rooms, hall, verandah, ample offices.

Garage, greenhouse, laundry, etc.

Beautiful rose and flower-laden gardens, with lawns, kitchen garden, etc., in all over $\frac{1}{2}$ Acre.

To be SOLD, by AUCTION, at the St. James' Estate Rooms, 20, St. James' Square, S.W.1, on Tuesday, September 29th, 1925, at 2.30 p.m. (unless previously sold).

Solicitors: Messrs. F. C. Mathews and Co., 110, Cannon Street, E.C.4.
Particulars from the Auctioneers: HAMPTON AND SONS, 20, St. James' Square, S.W.1.

NEAR STROUD, GLOS.

400 feet up on Western slope. Glorious Views.
Close to Golf Course.

"THEESCOMBE HOUSE," AMBERLEY.

FREEHOLD RESIDENTIAL PROPERTY ($3\frac{1}{2}$ miles from town and station), comprising GEORGIAN RESIDENCE, with halls, four reception rooms, conservatory, two staircases, nine or ten bedrooms, two dressing rooms, bath, offices.

Company's Gas and Water. Telephone.

Stabling. Garages. Farmery. Four cottages.

Lovely old-world gardens. Woodland and paddock of nearly 17 ACRES.

Vacant Possession of all but two cottages.

To be SOLD, by AUCTION, at the St. James' Estate Rooms, 20, St. James' Square, S.W.1, on Tuesday, September 15th, 1925, at 2.30 p.m. (unless previously sold).

Solicitors: Messrs. Little and Bloxham, Stroud, Glos.
Particulars from the Auctioneers, Mr. E. J. Rowell, 8, Rowcroft, Stroud, Glos, or HAMPTON AND SONS, 20, St. James' Square, S.W.1.

SUSSEX.

Golf at Piltown (four miles). Perfectly rural position, 400 ft. up, with far-extending view.

The very choice and compact FREEHOLD RESIDENTIAL PROPERTY,

"THE TOLL," BUXTED.

Beautiful Fold Farmhouse, remodelled and full of oak, comprising bold courtyard, entrance and lounge halls, three reception rooms, study, principal and secondary staircases, seven bed and dressing rooms, bathroom, and offices.

Garage. Chauffeur's rooms. Useful outbuildings.

Most delightful and old-fashioned gardens and grounds, and 6 Acres of rough pasture, in all nearly 9 ACRES.

VACANT POSSESSION.

To be SOLD, by AUCTION (in conjunction with Messrs. J. R. Thornton and Co.), at the St. James' Estate Rooms, 20, St. James' Square, S.W.1, on Tuesday, September 15th, 1925, at 2.30 p.m. (unless previously sold).

Solicitors: Messrs. Howard Gates and Ridge, 2, Norton Road, Hove, Sussex.
Illustrated particulars from the Auctioneers, Messrs. J. R. Thornton and Co., High Street, Lewes, Sussex, and HAMPTON AND SONS, 20, St. James' Square, S.W.1.

MIDDLESEX.

One of the choicest and highest positions at HARROW-ON-THE-HILL.
Immune from main road traffic; wonderful views; motoring distance from Town; close to the historical Town and famous School.

"BELMONT."

Convenient FREEHOLD RESIDENCE, containing eight bed and dressing rooms, bath-room, hall, four reception rooms, conservatory, usual offices.

Electric Light. Gas and Water. Main Drainage.

Delightful terraced garden of over $\frac{1}{2}$ Acre.

WITH SITE FOR GARAGE.

VACANT POSSESSION.

To be SOLD, by AUCTION, at the St. James' Estate Rooms, 20, St. James' Square, S.W.1, on Tuesday, September 29th, 1925, at 2.30 p.m. (unless previously sold).

Solicitors: Messrs. Wootton, Leaf and Pitcairn, 56, Victoria Street, Westminster.
Particulars from the Auctioneers: HAMPTON AND SONS, 20, St. James' Square, S.W.1.

ON THE SUMMIT OF

HAMPSTEAD HEATH.

Only five minutes' walk from Hampstead Tube Station.

ON THE ROOF OF LONDON.

"ROSETTE COTTAGE."

Opposite the flagstaff, Hampstead Heath, N.W.3.

Quaint Old-World Cottage. An Artist's Ideal. Modernised but Unspoiled.

Overlooking the Whitstone Pond and commanding a peerless panorama extending to the Chiltern Hills.

Three bedrooms, bathroom, dining room, drawing room, studio, hall and domestic offices.

Over 4,300 feet up on gravel and sand.

FREEHOLD.

VACANT POSSESSION ON COMPLETION.

To be SOLD, by AUCTION, at the St. James' Estate Rooms, 20, St. James' Square, S.W.1, on Tuesday, September 29th, at 2.30 p.m. (unless previously sold).

Solicitors: Messrs. Bentley and Jones, 3, Lincoln's Inn Fields, W.C.2.

Sole Agents and Auctioneers: HAMPTON AND SONS, The Clock Tower, 49, Heath Street, Hampstead (Tel. Hampstead 2727), and 20, St. James' Square, S.W.1.

BOURNE END.

About half mile from station. Within easy reach from golf courses.

Lovely position on a backwater with pretty views.

Delightful and sumptuously fitted FREEHOLD RESIDENCE,

"PRIORY FORD."

Approached by two drives, and containing, on only two floors, lounge hall, beautiful reception and billiard rooms, two staircases, eight bed and dressing rooms, two bathrooms, servants' accommodation and compact offices.

Company's electric light and water. Central heating.

Garage for three cars. Stabling. Boathouse.

The Gardens of remarkable charm include ornamental lawns, hard tennis court, etc., in all about $2\frac{1}{2}$ Acres.

WITH VACANT POSSESSION.

To be SOLD, by AUCTION (in conjunction with EDGAR S. BINGE, Esq., F.A.I.), at the St. James' Estate Rooms, 20, St. James' Square, S.W.1, on Tuesday, September 29th, 1925, at 2.30 p.m. (unless previously sold).

Solicitors: Messrs. Rutland and Taylor, 31, High Street, High Wycombe.

Particulars from the Auctioneers, Edgar S. Binge, Esq., F.A.I., Bourne End, Bucks, and HAMPTON AND SONS, 20, St. James' Square, S.W.1.

SUSSEX.

In a sequestered part, on Western slope, lovely views. Easy reach of noted Golf Course and coast.

WOODCROFT.

Near the old Town of Battle.

A charming little COUNTRY RESIDENCE, containing on two floors only dining hall, three reception rooms, seven bed and dressing rooms, linen or work room, two bathrooms, ample offices.

Two-roomed Cottage. Garage. Engine house.

Company's Water. Own Electric Light.

Gently sloping pleasure grounds and paddock, in all about $2\frac{1}{2}$ Acres.

VACANT POSSESSION.

To be SOLD, by AUCTION, at the St. James' Estate Rooms, 20, St. James' Square, S.W.1, on Tuesday, September 29th, at 2.30 p.m. (unless previously sold).

Solicitors: Messrs. Hiscott, Troughton and Grubbe, 5, Stone Buildings, Lincoln's Inn, W.C.2.

Particulars from the Auctioneers: HAMPTON AND SONS, 20, St. James' Square, S.W.1.

ST. JAMES' ESTATE ROOMS

WILL YOU KINDLY MENTION

The MOTOR OWNER

WHEN REPLYING TO ADVERTISERS

September, 1925

Telephones:
MAYFAIR
1289
1290

BATTAM & HEYWOOD

(M. F. YORKE, P.A.S.I. F. G. NEVILLE, F.A.I. O. A. J. WHITEMAN, P.A.S.I., F.A.I.)
20, DAVIES ST., BERKELEY SQUARE, LONDON, W.1

BRANCHES:
The Estate Offices,
EFFINGHAM.
The Town Hall,
BASINGSTOKE.



WORCESTERSHIRE

Within easy reach of Tewkesbury and Worcester.

A remarkably beautiful and interesting Historical Freehold Country Property, comprising a **BEAUTIFUL JACOBEOAN RESIDENCE** approached by a winding drive, and perfectly secluded.

Entrance hall, with fifteenth century panelling; five reception rooms, billiards room; ten principal bedrooms, two dressing rooms, bathrooms, three secondary bedrooms, and domestic offices.

Electric light. Central heating. Telephone.

Stabling for eight. Garage. Two cottages.

MAGNIFICENT OLD GROUNDS.

Tennis and pleasure lawns, flower and kitchen gardens, orchard, rich pasture and small woodland. **ABOUT 97 ACRES.**

Golf. Hunting. Fishing. Shooting.

Immediate possession. Particulars and photos of the Vendors' Agents,
BATTAM AND HEYWOOD, 20, Davies Street, W.1.



GLOUCESTERSHIRE

Three miles from Minchinhampton Golf Links.

Delightful situation, close village, 2½ miles Nailsworth, 3½ miles Tetbury Station.

SMALL COTSWOLD MANOR HOUSE, dating back 400 years.

Four reception rooms, seven or eight bedrooms, two bathrooms.

Electric light. Central heating. Telephone.

Stabling. Garage. Two cottages.

BEAUTIFUL OLD GROUNDS.

Carrying some fine old timber, including tennis lawn, flower, fruit and vegetable gardens, and two paddocks, in all **ABOUT 8½ ACRES.**

Bounded by picturesque trout stream.

Immediate possession. Illustrations and particulars from Sole Agents,
BATTAM AND HEYWOOD, 20, Davies Street, W.1.

15 MILES FROM LONDON.

GRAVEL SOIL.

SURREY, COULSDON

AN EXCEPTIONALLY WELL-APPOINTED RESIDENCE,

fitted with every labour-saving device; two reception rooms (one with parquet floor and eighteenth century panelling). Five bedrooms, bath, etc.

Electric light. Main water and drains.

SINGULARLY BEAUTIFUL GARDENS

with terraces, rockeries and pergolas.

PRICE £2,100 OR OFFER.

Sole Agents,

BATTAM AND HEYWOOD, 20, Davies Street, W.1.

HERTS

(15 miles Marble Arch. Practically adjoining Golf Links.)

A CHARMING RESIDENCE

With beautiful views, and nicely fitted.

Lounge hall, two reception rooms, eight bed and dressing rooms, tiled bathroom, etc.

Garage. Electric Light. Gas.

Pleasant gardens of 1 Acre, including tennis lawns.

PRICE, £4,750 OR OFFER.

Inspected and recommended—

BATTAM AND HEYWOOD, 20, Davies Street, W.1.

MINCHINHAMPTON & PAINSWICK

High up; fine views; about ½ mile from town and station, with London within 2½ hours.

EXCEPTIONALLY COMPACT AND WELL-APPOINTED RESIDENCE, with carriage drive.

Entrance hall, three reception, nine bed, and bath-rooms.

Central heating, lighting. Company's water. Telephone.

Stabling, double garage, and outhouses.

BEAUTIFULLY TIMBERED GROUNDS.

Tennis and Badminton lawns, flower and walled kitchen gardens.

IN ALL ABOUT 1½ ACRES.

Inspected and recommended by the Sole Agents,
BATTAM AND HEYWOOD, 20, Davies Street, W.1.



SUSSEX

Bordering the Ashdown Forest, over 300 ft. up, and close to quaint small village.

A DELIGHTFUL RESIDENCE

Containing lounge hall, two reception rooms, eight bed and dressing rooms, bathroom, etc.

Garage. Outbuildings.

Electric light. Ample water supply.

SUPERB GARDENS,

with tennis lawn, pergola, two orchards, and paddock.

IN ALL FOUR ACRES.

Pitdown and other golf links within easy reach.

Sole Agents,

BATTAM AND HEYWOOD, 20, Davies Street, W.1.

600 FEET UP.

PRACTICALLY ADJOINING FAMOUS GOLF LINKS.



SUSSEX

A PICTURESQUE RESIDENCE

Partly stone built, with old tiled roof, and commanding wonderful views. Beautifully fitted, oak floors and doors, etc. Hall, three reception rooms, four bedrooms, bathroom.

Garage. Gas. Company's water. Main drainage.

ELECTRIC LIGHT AVAILABLE.

CHARMING GARDENS, with tennis lawn, orchard, etc., about

ONE AND THREE-QUARTER ACRES.

PRICE £2,800 OR OFFER. IN PERFECT ORDER.

Agents,

BATTAM AND HEYWOOD, 20, Davies Street, W.1.

Estate Offices: 20, DAVIES ST., BERKELEY SQUARE, LONDON, W.1

Telegrams: "Teamwork, Piccy,
London."
Telephones: Mayfair 2300 & 2301
Grosvenor 1838

NORFOLK & PRIOR

20, BERKELEY STREET, PICCADILLY, W.1

Auctioneers and Surveyors,
Valuers,
Land and Estate Agents.

BERKS AND BUCKS BORDERS

In beautiful undulating country, close to a favourite reach of the Thames, yet within daily reach of London.



VIEW FROM THE STREAM

A PICTURESQUE QUEEN ANNE FARMHOUSE

upon which many thousands have been expended during the past few years; in perfect order and equipped with every modern convenience.

Panelled hall, three charming reception rooms, beamed music room 60 ft. by 20 ft. (with organ, if desired), six family bedrooms, two bathrooms, guests' and servants' bedrooms in annexe, ample offices; electric light, central heating, main water, 'phone. TWO COTTAGES.

GARAGE.

Beautifully disposed grounds, intersected by a stream, tennis lawn, bowling green, etc.; in all
FIVE ACRES.



THE COURTYARD AND COTTAGES



THE MUSIC ROOM

FOR SALE FREEHOLD.

Illustrated particulars from Sole Agents, NORFOLK & PRIOR, 20, Berkeley Street, W.1. Inspected and recommended.
(6084)



250,000

THE
WORLD'S
LARGEST
ORGANISATION
ACTIVELY ENGAGED
IN INTERESTS OF
DIRECT BENEFIT
TO MOTORISTS &
MOTORING

MEMBERS

A.A. Activities include:
Road Patrols; Roadside Telephones; Road Service Outfits; Free Legal Defence;
Home and Foreign Touring Assistance; Expert Engineering Advice: Appointed
Hotels, Repairers, etc.

If you are not a member the A.A. booklet "Always Ahead" will demonstrate
how the A.A. would benefit you.

Copy post free from the Secretary, The Automobile Association, 16, Farnham House,
New Coventry Street, London, W.1



14/45 H.P.
ROVER
CARS

Luxury Travel by Land and Sea

Just as the "Berengaria" offers the quintessence of luxury travel by sea, so the 14/45 h.p. Rover provides unsurpassable comfort on the road. As sweet and smooth in running as a perfect "six," the four-cylinder engine of the Fourteen-Forty-five Rover costs no more to run than

any other medium-powered "four," yet the body accommodation is superior to anything yet offered by a car of only £14 taxation rating. Try it on the road—write for appointment and catalogue. Prices from £550.

ROVER

THE ROVER COMPANY, LTD., 61 New Bond St., W.1, and COVENTRY

The best Agent in every Town is the Rover Agent

ROVER IS BRITISH ALL THROUGH

WILL YOU KINDLY MENTION THE MOTOR OWNER WHEN REPLYING TO ADVERTISERS

September, 1925

Get all of that a "Six" can give of!



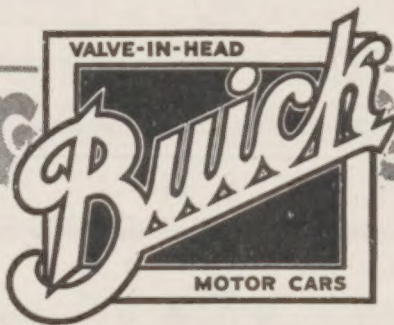
SIX-CYLINDER superiority is borne out to-day not only by engineering knowledge but by proved road performance. In the Buick celebrated valve-in-head engine, six-cylinder balanced construction produces sweet, even, powerful running that no "four" can possibly achieve.

Buick's six cylinders give a fine degree of flexibility and a lightning acceleration. Gear changing is reduced to a minimum. Traffic holds no terrors. On the open stretch or the steepest hill, a steady flow of power is in hand at any speed from two to more than sixty miles an hour in top gear. Appreciate the surprising superiority of Buick "six-cylinder" performance. Your dealer will give you a trial run without obligation.

20 h.p. 5-seater Tourer, £355 ; 27 h.p. 7-seater Tourer, £475 ;
20 h.p. 5-seater Saloon, £498 ; 27 h.p. 7-seater Saloon, £675 ;

Buick authorised dealers serve you best

GENERAL MOTORS, LTD., EDGWARE ROAD, THE HYDE, LONDON, N.W.9





"I have never used second-grade oil for my engine, but the difference between your oil and the best of the others is most noticeable . . . Oil-changing is much less frequent, and intervals between decarbonising at least twice as long with Huile de Luxe," writes "A.E.D." in an unsolicited letter from Bournemouth. He remarks also "No gumming since I began using Huile de Luxe." We have many similar letters, all telling of increased mileage and decreased costs effected through the use of this compound lubricant. Huile de Luxe is a blend of fatty oils and hydrocarbons that remains fluid at low temperatures, but retains all the properties of a perfect lubricant when hot. The fatty oils, which serve to reduce carbon deposits inside cylinder heads to a minimum, include no castor oil or other substances that might cause gumming. You, too, will find Huile de Luxe different.

HUILE DE LUXE

Prepared in three Grades
ZERO-WINTER-SUMMER



Huile de Luxe is a compound lubricant that gives entire satisfaction in any engine. There is a grade made especially to meet the needs of your own motor. Let us advise you which grade to select—or send you free of cost our interesting literature on lubrication and allied subjects.

PRICE'S PATENT CANDLE CO. LTD. BATTERSEA, LONDON, S.W.11

WILL YOU KINDLY MENTION

The
**MOTOR
OWNER**

WHEN REPLYING TO ADVERTISERS

September, 1925

ENGLEBERT

MAGAZINE

is the
leading Belgian Sporting Review

Its certified
circulation is 50,000 copies

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are consulted because
they are attractive.

Apply for free specimen
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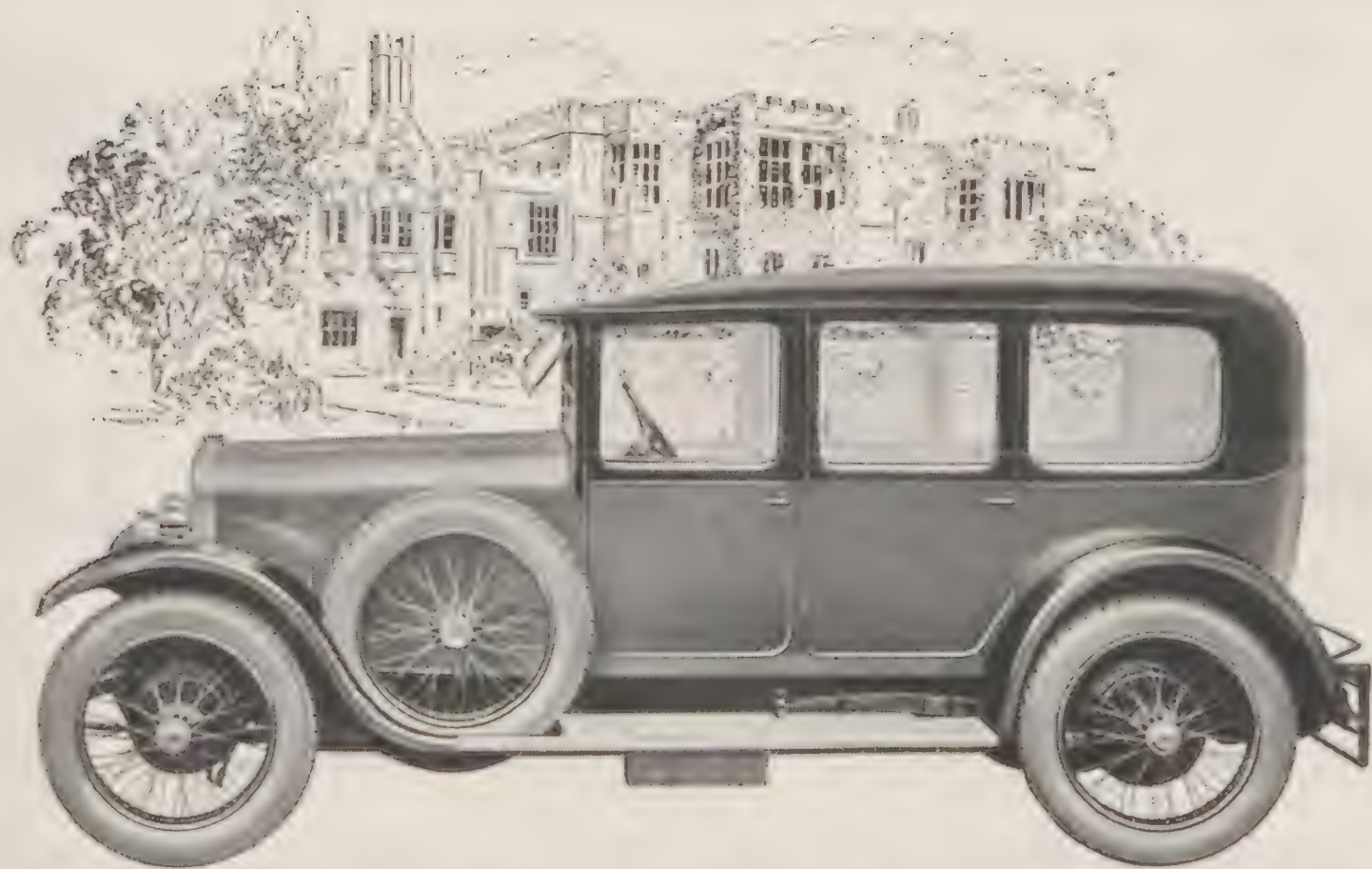
16-18 RUE AUGUSTE HOCK, LIÈGE, BELGIQUE

Published by

ENGLEBERT TYRES LTD.

162 Great Portland Street
LONDON, W.1





CLOSED CAR COMFORT

FROM blazing sunshine to a heavy deluge within a few hours is one of the many little ironies of this English climate. But with a suitable closed car all the vagaries of the weather are successfully overcome.

The 14/40 h.p. Sunbeam Saloon provides 365 days of luxurious road travel in every year. Ample window lights—the windows can be adjusted to any desired point by mechanical regulators—well ventilated; warm in winter, cool in summer's heat.

The quality of the coachwork matches the

efficiency of the chassis—with its overhead valve, four-cylinder engine developing power for every need, and the security of the Sunbeam four-wheel braking system.

One Sunbeam owner writes: "My 14/40 h.p. car has now done 10,000 miles, half in England, half in India not a moment's trouble excellent four-wheel brakes very efficient springing"

That is typical of Sunbeam service—mile after mile, year after year, of supreme satisfaction. Quality does tell.

Ready for £845 the Road

Other models 12/30 h.p., 20/60 h.p., and Three-litre Super Sports

THE SUNBEAM MOTOR CAR COMPANY LIMITED
Moorfield Works WOLVERHAMPTON
London Showrooms and Export Department: 12 PRINCES STREET, HANOVER SQUARE, W.1
Manchester Showrooms 106 DEANS GATE

The Supreme Car
SUNBEAM

BUY BRITISH GOODS

Made by British Craftsmen
In a British Factory
With British Materials



PLUNGER FILLING
SAFETY

LEVER FILLING

From 15/- to £12:12:0

Onoto the Pen

OF ALL
STATIONERS & JEWELLERS

THOMAS DE LA RUE & CO., LTD.

110 Bunhill Row, E.C.1

ONOTO SERVICE DEPOTS

17 St. Bride St., E.C.4

LONDON

139 High Holborn, W.C.

GOODALL'S BRITISH PLAYING CARDS



DESIGNS IN GOLD and COLOURS
HANDSOMELY BOXED

BOUDOIR SERIES

NARROW SIZE

Linette Grained - Gold Edges

SALON SERIES

STANDARD SIZE

Linette Grained - Gold Edges

LINETTE SERIES

Linen Grained. Designs in single colour. Tuck cased.
THE WORLD'S CLUB CARD

CHAS. GOODALL & SON, LTD.

110 Bunhill Row, E.C.1

17 St. Bride St., E.C.4 LONDON

DE LA RUE'S BRITISH PLAYING CARDS



PALACE GOLD MOGULS

GOLD EDGES

In Presentation Boxes

PNEUMATIC SERIES

Minute Grooves on backs

FLAXETTE SERIES

Linen Surface both sides

CAMBRIC SERIES

Linen Surface on backs

THOMAS DE LA RUE & CO., LTD.
LONDON PARIS NEW YORK

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Showrooms:
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MORE THAN A
MILLION
MILES

HAVE NOW BEEN FLOWN

by the fleet of
IMPERIAL
AIRWAYS
whose petrol
requirements are

SUPPLIED EXCLUSIVELY BY

SHELL

SHELL-MEX LTD., G.P.O. BOX 148, SHELL CORNER, KINGSWAY, LONDON, W.C.2

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The
MOTOR
OWNER

WHEN REPLYING TO ADVERTISERS

September, 1925



Well base rims
Straight side rims
Beaded edge rims

There are many types of tyres from which to choose, but whichever you choose there's a Sankey Wheel that is best for it.

Be sure that your car is equipped with Sankey Wheels

SANKEY
PATENT ALL-STEEL
wheels

JOSEPH SANKEY & SONS, LTD.,
Hadley Castle Works, WELLINGTON, SHROPSHIRE

Telephone - - - - - Wellington, Shropshire, 66.
Telegrams - - - - - "Sankey, Wellington, Shropshire."

LONDON OFFICE:
Mr. R. JENKINS, Ulster Chambers, 168, Regent Street, W.1

Compare the work



INVESTIGATE THE TWENTY ROYAL REASONS

ELEVEN of the ROYAL'S Twenty patented improvements are devices to enable the typist to do more and better work with less effort. The remaining Nine are points of mechanical superiority which add to the ease of operation and satisfaction of ownership. Isn't there every reason why you should furnish a good typist with the best typewriter? For her sake and your own you should determine which typewriter really *is best* to-day. Investigate the Twenty ROYAL Reasons. Send for Booklet describing them.

ROYAL

TYPEWRITERS

75, 75a, QUEEN VICTORIA STREET,
LONDON, E.C.4. (Phone: Central 7484)
6 lines.

There's a Royal branch or Agent in every principal town in the United Kingdom.

Important Announcement
 CONCERNING THE 20 H.P.
ROLLS-ROYCE
 CHASSIS

§ All 20 H.P. Rolls-Royce Chassis ordered on and after July 28th, 1925, can be fitted with right hand change-speed and brake levers and a 4-speed gear-box, without addition to the usual chassis price, viz. £1,100

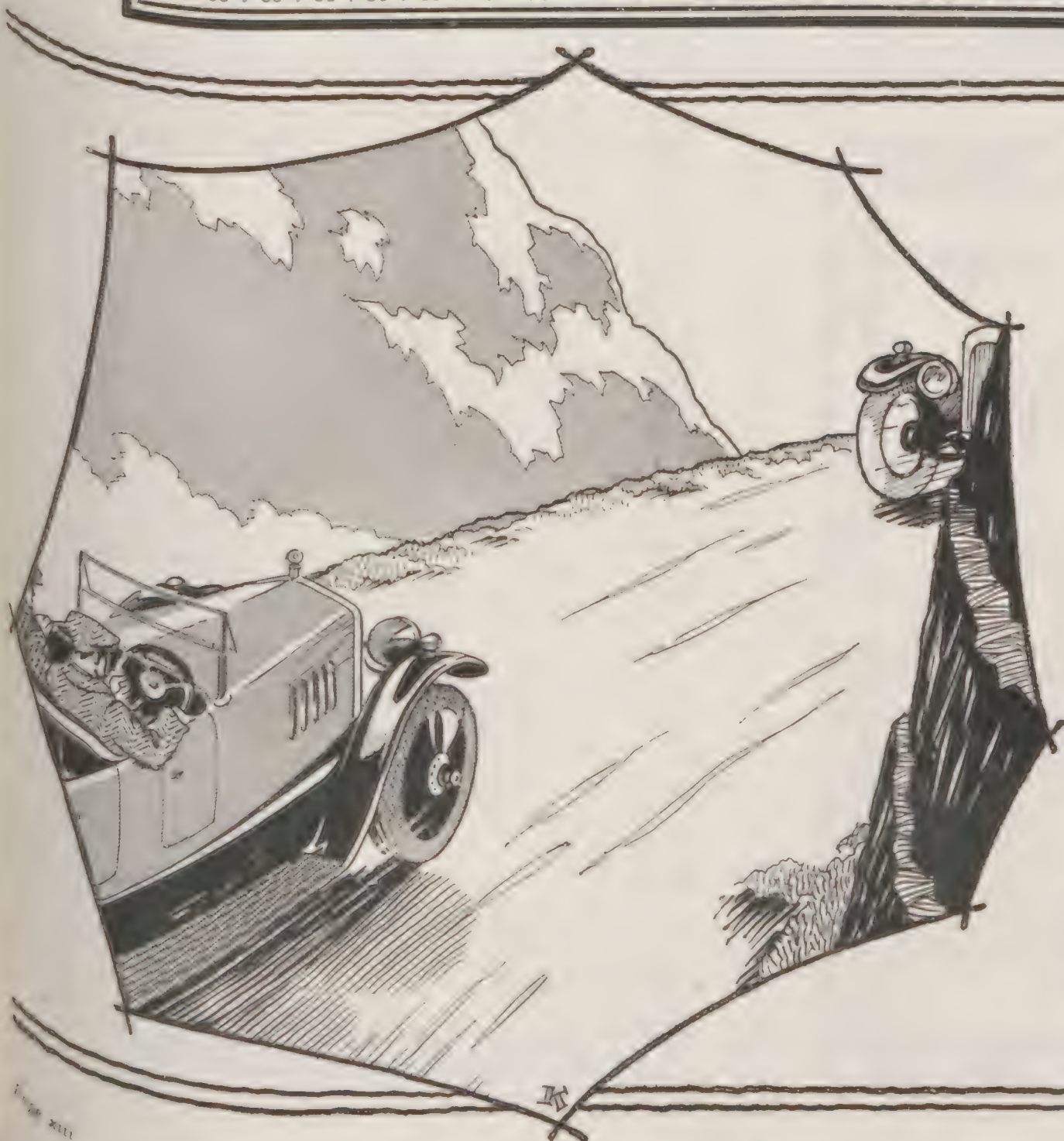
Also

Rolls-Royce Six Brakes can be fitted to all 20 H.P. Rolls-Royce Chassis ordered on and after that date at an extra cost of £85
 (Provided that the Brakes are ordered at the same time as the Chassis)

ROLLS-ROYCE LTD., 15 CONDUIT STREET, LONDON, W. 1

Telegrams: Rolhead Piccy London

Telephone: Mayfair 6040 (4 lines)



THERE are so many awkward situations which can confront you at critical moments that we make no apology for again mentioning "Brakes."

So that you may rely implicitly upon your brakes to control your car in any emergency, see that they are correctly adjusted and lined with Ferodo Linings.

An overwhelming majority of British Motor Manufacturers fit as standard to their cars



"The linings that make motoring SAFE."

FERODO LTD., Chapel-en-le-Frith.

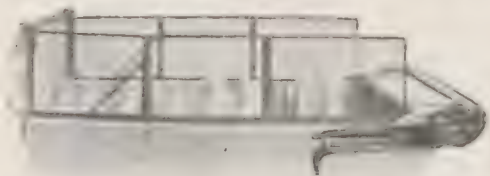
Depots and Agencies: London, Birmingham, Leeds, Manchester, Bristol, Belfast, Coventry, Newcastle, Liverpool, Glasgow, Aberdeen, Carlisle and Brighton.

265

Patent Rigid all-weather

ROTAX

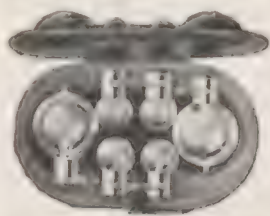
Side Curtain equipment



View showing hood down

MORRIS-OXFORD, 4-seater, 6 panels, 2-30" x 16 1/2",
2-32 1/2" x 16 1/2", 2-23" x 16 1/2" .. Price £7-7-0
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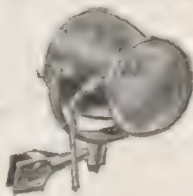
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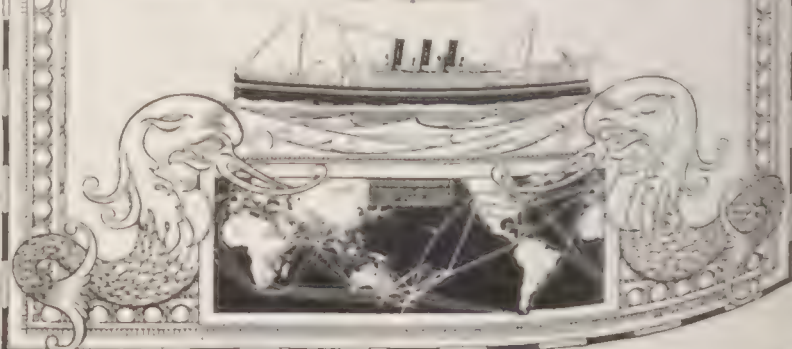
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IMPORTANT ANNOUNCEMENT

"The Motor Owner" & October 8th

*On October 8th Olympia opens its doors
to the 19th International Motor Exhibition*

OWING to the confidential nature of certain information in our possession which may not be disclosed before the Show, and in order that our readers may have last minute news, the publishing date of the October issue of "The Motor Owner"—a Special Show Number—will be delayed until the opening day of the Exhibition.

This exception to our usual practice applies only to the October issue, and thenceforward the publishing date will be the 1st of the month, as usual.

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THE MOTOR OWNER

Managing Editor:

EDGAR de NORMANVILLE



SEPTEMBER · 1925

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Subscriptions should be directed to the Publisher at the above address.

The Editor will be pleased to consider contributions of special interest to the car owner, provided they are of high quality and in every way suitable to the magazine. Short illustrated articles are preferred, dealing with any aspect of private motoring, either as regards touring or the home management of the car. First-class snapshots of roadside scenes or incidents are particularly desired. All photographs and sketches should be fully titled on the backs and bear the name and address of the sender.

Contributions should be addressed to the Editor of "The Motor Owner," 10, Henrietta Street, W.C.2, and should be accompanied by a stamped, addressed envelope. While every effort will be made to return them if unsuitable, the Editor cannot hold himself responsible in case of loss or damage.

Editorial Offices:

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I see a picture crude and bold
Mind—mirrored in the river bed—
A gleam of white, a glint of gold,
A touch of red . . . J. A. MIDDLETON.





SEEN THROUGH THE SCREEN

AN American reader of THE MOTOR OWNER makes a very good suggestion which we pass on to the compilers of guide books for transatlantic visitors. His point is that an alternative route might be provided to the various places of interest dealt with, the object being to give variety of scenery on the outward and homeward runs.

Our correspondent instances a motor trip he recently took to Hastings. He went out by the most direct route as advocated in his "book of words" but, with the characteristic enterprise of his nation, sought out fresh paths on his return journey, coming by way of Wadhurst, Frant, Penshurst, and Hildenborough.

We heartily endorse his opinion that the latter route was more attractive, if less straightforward.

The Car Driver's Eyes.

Private car owners are indirectly interested in the proposed new regulations at Hull relative to eyesight in drivers. Certainly these are purely local ordinances, and, of course, only apply to drivers of charabancs and other motor vehicles for public hire, but the matter is allowed to pass unchallenged it may possibly be the turn of the owner-driver next.

We are not blind to the importance of eyesight in driving, and agree that tests, when conducted by an ophthalmic surgeon or a qualified ophthalmic optician, are advantageous. Where THE MOTOR OWNER joins issue with the authorities responsible for these proposed rules is on the definite statement: "No applicant who wears glasses will be licensed."

The Great Injustice.

Obviously, this rule inflicts a serious blow upon the prospects of a considerable number of would-be workers. Consequently, we desire to enter a strong protest against its adoption, not only in the interest of justice but also, and chiefly, because we read into it a sub-

versive tendency which may be used against that section of private motorists who find it necessary to wear "specs." We number amongst our friends many private motorists who, though spectacles, are most skilful car drivers.

No, Messieurs the authorities at Hull, you will have to try again. Let us with all courtesy and good humour remind you of the old proverb, which suggests that eyes should not be touched save with the elbow.

The Stormy "Petrol."

Our rhyming roamer has been visiting the Wembley Stadium. He came back simply brimming over with wonder at the car-polo. Whilst the fever was still in his bones, he determined to unburden his throbbing heart in an epic on the usurpation of the horse's throne by petrol.

They're playing polo now with cars !
The future my soul vexed ;
I sought a polo pony out
And said to him, "What next ?"
He picked his crystal up and gazed,—
"Is petrol then a boon ?"
"I see old Hobbs make all his 'runs'
"In a cushion-tyred saloon.
"Lo, now, a Test Match ! . . . Strangest sight !
"What is it then that clanks ?
"O Stranger, hear the horrid news—
"They're making goals in tanks !
"I see a Meet without a horse—
(He tore his mane)—"I weep !
"Oh, help ! They're taking five-barred gates
"In motor-cars that leap !"
"I see now Lenglen on the courts ;
"The game has lost its tang.
"She has an auto racquet, and
"Her ball's a boomerang.
"One realm is left me !" thus he cried,
"There's still the Sport of Kings !"—
He sought the Derby—every horse
Had petrol-driven wings.
He dropped his crystal sadly down:
"I abdicate. How can
"A horsey keep his tail up when
"He's cast aside by Man ?
"Petrol is monarch now, and we
"Have flung our final fling.
"Spirit ! I hand my sceptre on
"And cry 'Long live the King !' "

Rubber Restrictions.

The Society of Motor Manufacturers and Traders, the Royal Automobile Club and the associations who watch over the interests of commercial motor and motor-cycle manufacturers have joined forces in issuing a manifesto directed against the legislative restrictions of rubber from Malaya and Ceylon.

When it is remembered that the bodies mentioned represent the great bulk of the million and a half owners of motor vehicles in use in this country, and the vast industry engaged in their production, it will be admitted that they speak with authority on the matter.

The root of the trouble is to be found in what is known as the Stevenson Restriction Scheme, which, created to make an economic price for rubber, has most distinctly had the effect of bringing about an uneconomical price for tyre equipment. Crude rubber prices have advanced by no less than 250 per cent. in the last three months.

Your Tyres Cost More.

These advances are naturally, and perfectly justifiably, reflected in the charges of tyre manufacturers. They have been forced to make two price increases in the past three months, and, in all probability, will have to repeat the operation.

The Colonial Secretary admits that the present price of rubber is entirely abnormal, but maintains that under the existing restriction scheme the position will right itself within twelve months. At the same time he agrees to release a further 10 per cent. from the restricted areas.

The Associations who issue the manifesto dissent from this optimistic view. In their opinion, which is based upon reliable estimates, the extra 10 per cent. of released rubber will not appreciably affect the existing shortage, and they quote convincing figures in support of their contention.

In these circumstances they feel it

their duty to press for a far more drastic amendment of the present Restriction Scheme.

We concur, and on behalf of our many readers add our emphatic protest against the existing conditions.

The Devil's Dyke.

All motorists are interested in the preservation of well-known beauty spots, and it must have been a shock to many to learn that the magnificent height on the South Downs, known as The Devil's Dyke, is likely to be closed to the public, as it is to be used for the erection of small week-end bungalows.

There is a good motoring road to the Dyke, which is over 700 ft. above sea level, and from this height it is possible to obtain a magnificent view over, more or less, eight counties. The spot is famous, and must have been visited at some time by nearly every motorist in Southern England and by tourists from all parts of the United Kingdom, by reason of its being one of the very few high points on the Down that can be reached by road.

The Prince of Darkness.

The actual Devil's Dyke is a great cleft in the chalk about three hundred feet deep. According to legend, it was cut by the Devil, who was annoyed because so many churches were being built in Sussex. He determined to cut through the hills to the sea and thus flood the country. According to the quaint old story, the Devil could only work at night when the church bells were not ringing, so he set to with great energy in order to complete his task between sunset and sunrise. An old woman, who lived in a lonely hut, looked out when she heard the noise. She had no lantern, so she sheltered a candle from the wind by a sieve. The Devil saw the round sieve with the light shining through and thought it was the sun rising! Consequently he abandoned the work and never returned to finish it.

As a story it is somewhat hard to swallow, but, anyhow, there is the Dyke, which is visited by thousands of people every month during the summer.

The only hope seems to be that the famous spot will be acquired by

IMPORTANT ANNOUNCEMENT.

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the nation and converted into a public park which can never be spoiled by builders.

Safety Driving.

We are in perfect agreement with the conclusions arrived at by the special committee appointed by the R.A.C. to consider ways and means of increasing the safety of the roads. Indeed, we have often advocated legislation on similar lines in our columns.

However, good advice only gains added value by repetition, so we reprint the suggestions *in extenso*.



Pup:—"There's a cat in here somewhere. I can hear it purr"!

The Golden Rules.

"(1) That where two or more roads converge or cross, one of these roads must for the purpose of each particular junction or crossing be determined as the chief road and the others as subsidiary roads; each junction being considered on its own merits.

"(2) That overtaking on 'blind' corners, highly-arched bridges and crests of hills which are sufficiently arched to be 'blind,' is always driving to the public danger, and therefore a class of driving suitable for action by the authorities against offenders.

"(3) That warning signs be used as follows:—

"(a) All chief roads near where they are crossed by subsidiary roads should bear a special warning sign indicating the proximity of that subsidiary road whenever the existence of that subsidiary road is not apparent, and only then.

"(b) All subsidiary roads near where they cross chief roads should bear a warning sign indicating the proximity of a chief road.

"(c) In the case of a subsidiary road coming into a chief road and not crossing it, the necessity for a warning sign for such junctions should be considered.

"(4) That the warning sign should be placed exclusively on the left-hand side of the road.

"(5) That the disposition of warning signs (whether triangle or other) installed at present should be carefully revised by selected committees of experienced motor-car drivers, under the guidance of some single central body, in order to remove signs which are not sufficiently necessary, and securing real importance to the warning sign.

"(6) That the form of the warning sign should be so protected by law as to make its authorised use and installation a criminal offence.

"(7) That signs placed upon the surface of the road form an additional warning signal.

The resolutions were forwarded to the Ministry of Transport, and it is hoped that his Department will consider the possibility of giving effect to the Club's recommendations.

We trust that the Club's recommendations may not be misplaced.



She: "Can you drive with one hand"?
"You bet I can."
"Then have an apple."



Salesman: "If you take this car, madam, we put
your initials on free."
Customer: "It's not the initial cost, it's the upkeep."

DRIVING HINTS FROM EXPERTS

No. 4.—By THE EARL OF CARDIGAN

The Editor has gladly accepted the sound suggestion of the author that an article by an experienced amateur would be an acceptable change on occasion from that of the professional writer—and prevailed upon His Lordship to commence the series!

I suppose that most people have, at one time or another, been placed in the position of wishing to drive a car with which they were previously unacquainted, and in many cases have had to confess their inability to do so.

Perhaps it was while old A's chauffeur was laid up; perhaps when B, who drives himself, twisted his ankle at that picnic miles from anywhere. In any case some fool had cheerfully announced that so-and-so could be relied upon as a good and safe performer. Given one's own familiar car, this may indeed be no more than the truth; but, alas, a cursory inspection of the array of levers, switches and pedals reveals a distressingly unfamiliar state of affairs.

And yet, had we but known, the essential differences were, in reality, slight. True, this strange machine carried its gear and brake levers centrally placed, instead of set conveniently to our right hand. It appeared also to have four speeds where we had only expected three, and the accelerator had strayed from its accustomed place. But let us now examine it a little more closely, and see, if we can, how these apparent difficulties may be overcome. Starting the engine should present no difficulties. A glance under the bonnet will distinguish between the ignition and the throttle controls, and after one or two experimental settings of the latter the engine may be expected to fire. Now set the throttle to a comfortable "tick-over" and move the ignition lever from end to end of its travel. At "full retard" the engine will be quite noticeably slowed down, while a slight acceleration will be observed at full or three-quarter "advance."

Now to make a start. A merciful Providence has decreed that motor manufacturers, at variance on most points, are unanimous at least on the question of the position of the clutch pedal. This is invariably on the left. The accelerator pedal may be placed centrally or on the

extreme right, but being small and rounded is easily distinguishable. A process of elimination reveals the foot-brake.

The hand-brake is normally released by lifting the ratchet and moving it right forward, but notable exceptions here are the Daimler and the De Dion Bouton, where the exact opposite is the case.

We now find ourselves faced with the problem of locating our first gear, which at first sight presents some difficulty. Fortunately, however, there is a fairly generally accepted rule here to guide us. Let us first take the case of a three-speed "box." In this case the first gear is almost invariably "back." This narrows down our choice to one of two slots. If a reverse stop is fitted we may be fairly sure of finding "first" opposite to it. Second gear will be through the gate and forward, and top gear straight back from "second." If, however, no reverse stop is fitted, we must find our first gear by experiment. Move the lever to one of the two back slots, accelerate the engine slightly, and let the clutch very gradually in. If the car "picks up" easily then we are obviously in first. If it hesitates, declutch at once, move the lever into the remaining back slot, and let the clutch in again.

In the case of a four-speed box, first gear is nearly always forward, and reverse is placed apart from the forward gears (the Metallurgique being an

exception here). When first gear has been selected as before, second will be straight back from it, third gear through the gate and forward, and top gear straight back from third.

Another method of locating the gears, which requires a certain amount of care, is as follows. Without drawing the clutch, move the gear lever as gently as possible into each slot in turn until a slight grating sound is produced. The high gears will be found to give a high note and the low gears a low note. Reverse gear is normally the lowest of all. This method, however, is not advisable unless one is possessed of a very light touch, or damage may be caused.

So far so good. Once on the road, however, a fresh problem arises. That nice, easy gear change on which we pride ourselves in our own car, how will it work in this case? Probably it won't. And so we have to evolve a rough-and-ready rule as a guide. The following is a good safe plan. Put up try a double declutch. Put the engine in neutral and listen. The engine, running free, will make a slight but noticeable vibration. There comes a moment when this vibration disappears. Instantly engage the higher gear. In all probability a silent change will be obtained.

No doubt some expert could explain the reason for this, but for us the fact is sufficient, and this method will very rarely fail. Changing down is invariably "double declutch."

It is as well to remember that a change from top to third with a four-speed "box" will result in a relatively less acceleration than a change from top to second with a three-speed "box," gear ratios being closer.

There is, indeed, a certain fascination for people in handling new and unaccustomed make. The difficult change is welcomed as a thing to be tackled and overcome, while the "super" product is looked forward to.

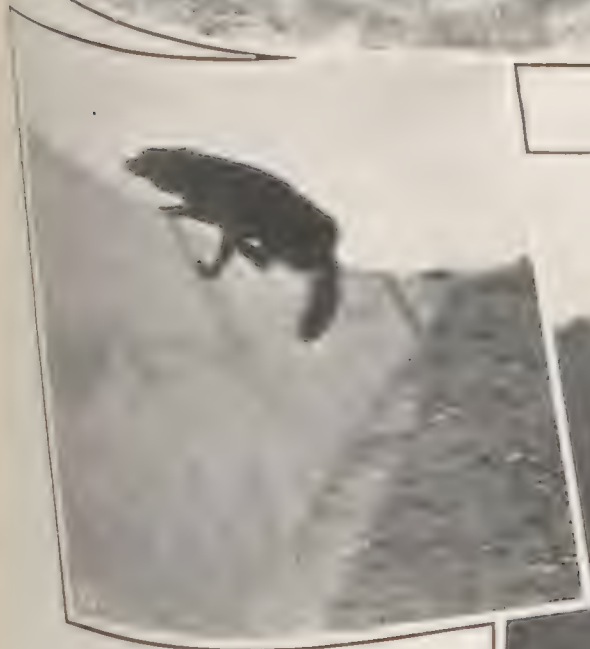


We are grateful to the Earl of Cardigan for his happy suggestion—and shall be pleased to consider articles by other experienced amateurs who feel they have a "call"!

PARTRIDGE—CARTRIDGE—AND CAR



The retriever photographs below, are—we think you will agree—a credit to the “snappy” character of our photographer.



THE TREND OF DESIGN FOR 1926

By CAPTAIN E. DE NORMANVILLE

At this period of the year it is interesting to investigate the probable development to be witnessed at the Show. Some of the main characteristics are detailed in the following article

IT is probable that the present year of grace has been leaving the majority of motorists under the impression that the motor car of to-day has advanced to such a close proximity to practicable perfection that material improvement was not to be looked for. But those of us who are privileged to know what is going on behind the scenes are aware of the fact that such belief is not only unwarranted but is to be susceptible to a rude shock. In recent developments of the sleeve-valve engine we have what may justly be considered one of the most epoch-making developments in the history of automobile progress. In fact, I must stress this as one of the outstanding characteristics of the tendencies in design for the future.

For some seventeen years past the Daimler Company have been assiduously developing the idea of the sleeve-valve engine, and for the benefit of motorists who may not be acquainted with its claims for consideration its leading characteristics may be briefly reviewed.

The poppet-valve engine of to-day has been brought to a remarkable pitch of perfection. It remains a fact, however, that the inherent action of poppet valves must account for a goodly proportion of that noise which does emanate from the power unit—due, of course, to the smart returning of the valves to their seats and the resultant accumulation of sound from such metallic contacts.

Then, again, if one were asked to indicate the chief defect in the ordinary type of engine, it is probable that the valve tappet adjustment would have to be signalled out as the primary source of attention. All of us who are experienced motorists know that valve tappet adjustment is an important factor in maintaining the pristine efficiency of such engines. And we all know the difference between driving an engine which is in perfect tune and one which is in need of attention in such minor points.

As is generally appreciated, the sleeve-valve principle overcomes these two defects of the present-day accepted orthodox engine design, as there is no facial

metallic contact other than that of harmonic movement, and there is no tappet adjustment.

As in so many details of motor-car construction, however, there has hitherto had to be a compromise. In attaining those desiderata it has been necessary to employ cast-iron sleeves, the comparatively heavy weight of which imposed a limit on the safety factor controlling their reciprocating speed; concurrently also limiting their permissible travel, and thus collectively necessitating a limit to the power which such an engine could safely be permitted to develop.

As a result of extended research and experimental work the Daimler engineers have now perfected the successful employment of light steel sleeves, thus rendering increased stroke of the sleeves practicable; thus rendering a larger port area permissible, and thus (having also improved the junk ring) making it practicable for these engines to develop much greater horse-power for a given size and given petrol and oil consumption. To get the facts of the case accurately you should appreciate that it was not a case of the previous sleeve-valve engines not being able to produce highly efficient power curves, but rather that, owing to constructional details, it was necessary wilfully to limit the power they could be allowed to develop. The ability to produce ample power was fully demon-

strated by the Minerva cars in the Isle of Man races many years ago.

We now, therefore, have the fact that these new engines not only give silence in operation, no need for valve adjustment, and a notably even torque; but also power, acceleration and hill-climbing capacity which can only be equalled by the very best poppet valve design. Consequently we can only imagine that the future development of motor cars will be bound to take into consideration the possible adoption of the sleeve-valve principle. Whilst I have only referred specifically to the Daimler, I would mention that other leading British manufacturers are also bringing out engines on the sleeve-valve principle, though at the moment my information in connection therewith is confidential in character.

We are also going to see a considerable development in regard to motor-car engines relative to the number of cylinders employed. We shall find many more cars with six-cylinder motors, and that development will begin to permeate through the inexpensive car classes as well as in the more expensive models. We are also going to see a further development of the straight eight engine, and in these days the reliability of components is so firmly established that the old arguments against a multiplicity of cylinders is no longer tenable, and everyone knows the greater the number of cylinders the more even and steam-like the resultant torque.

In regard to four-wheel brake systems, we shall also find a considerable measure of development. The chief defect in the well-designed systems we have known during the past year has been relative to the question of adjustment. On many cars the four-wheel brakes have been excellent—when perfectly adjusted. On the other hand, when the adjustment has ceased to be substantially perfect, the same four-wheel brakes have not been so efficient in use. We shall therefore, see a considerable amount of ingenuity displayed in overcoming these defects, and also in simplifying adjustment.



Since buying his car Jinks has ceased to walk in his sleep—he now rides!

OUR COMPETITION PAGE

A test for the keenness of readers' observation powers which will be found quite an intriguing little problem. The complete solution is neither too easy nor too difficult. Can you solve it?

THERE is always a spice of interest and amusement in solving a puzzle. The cross-word idea is here, there, and everywhere—so it's not going to be in THE MOTOR OWNER. But there's something that should tickle your fancy and intrigue your Sherlock Holmes deductive faculties. In the fine work of art here represented you see an estimable gentleman who found, when buying a new car, that his old one had very little pecuniary value! Admittedly that was a terrible state of affairs! But our friend was a brainy person. As he was also buying a bungalow at the sea-side, he bethought himself of a Great Idea. Why not furnish one of the rooms with portions of his old car's anatomy?

No sooner said than done. If you study the drawing you will see how cleverly he has contrived to introduce many parts of the car into the decorative furnishing of the apartment.

And now to test your skill. What you have to do is to see **HOW MANY PARTS OF A CAR** you can pick out in the drawing. Just schedule these on a postcard or in a letter,



How many motor-car parts can you see?



"The Motor Owner" Mascot

thus (1) the body, (2) the hood—and so on, until you have found all the car parts you can pick out. Post your attempt to The Editor, THE MOTOR OWNER, 10, Henrietta Street, Covent Garden, W.C.2. There is no entrance fee.

All attempts so received up to and including the first post on October 1st will be placed in a sack, and the first correct solution withdrawn will get the first prize—a MOTOR OWNER mascot value £5 5s. The second prize of a guinea will go to the second successful attempt so selected, and the third prize of half a guinea will be similarly chosen.

In the event of no competitor completely solving the puzzle, the prizes will be awarded to those who get nearest. There will also be one dozen consolation prizes of packs of MOTOR OWNER playing cards—which have the MOTOR OWNER mascot on the back and are of the best quality procurable. All correct solutions beyond the prize list will be acknowledged as such, and the prize winners will be published. Another problem in our next issue—which, owing to the Motor Show, will be published on October 8th instead of on the 1st.

REMARKABLE DAIMLER IMPROVEMENTS

Coupled with their abnormal quietude of operation and long life without adjustment, the new Daimler engines concurrently jump right to the fore for sheer efficiency.

"OUR deeds still travel with us from afar" is the maxim which inspires the engine-designing policy of the Daimler Co. The great reputation attained by the cars for which it is responsible has been built up on the sleeve valve-engine, and all its efforts in the past have been directed towards the development of that type. It is, therefore, small matter for wonderment that any improvement contemplated by Daimler engineers should follow along the same lines.

The surprise that will come to the non-technical owner of what we must now call the old car is that there should be any scope for betterment in its engine design. He supposed that the high-water mark of excellence had been reached, and, so far as his knowledge went, the belief was justified.

We of the MOTOR OWNER are, of course, privileged in being accorded advance information of manufacturer's intentions; therefore the advent of the new Sleeve-valve Daimler did not come to us as a bolt out of the blue. Nevertheless, remembering past fine Daimler achievements, it was with a certain amount of, well, shall we say, scepticism as to really far-reaching improvements, that we started to carry out a test run of one of the new models.

Let it be said at once that any such doubts were quickly dispelled. We



This little picture, taken at Chiddingstone, shows the graceful lines of the new Daimler models.

found a genuinely remarkable measure of progress evinced in the new engine. The smoothness and silence associated with the previous design have not been sacrificed, but it is as different as the proverbial chalk is from cheese, in regard to the speed range and acceleration.

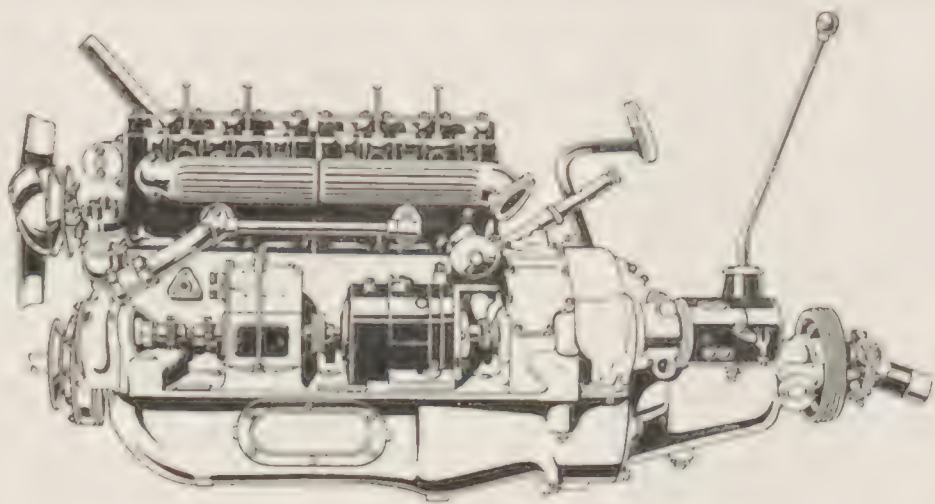
The chief features which have contributed to this desirable result are

higher compression, light steel sleeves, superseding the cast-iron ones of previous designs, and the possession of a longer stroke and larger square ports, a fully forced speed lubrication, a form of dual ignition, and aluminium alloy pistons with spring-expanded skirts.

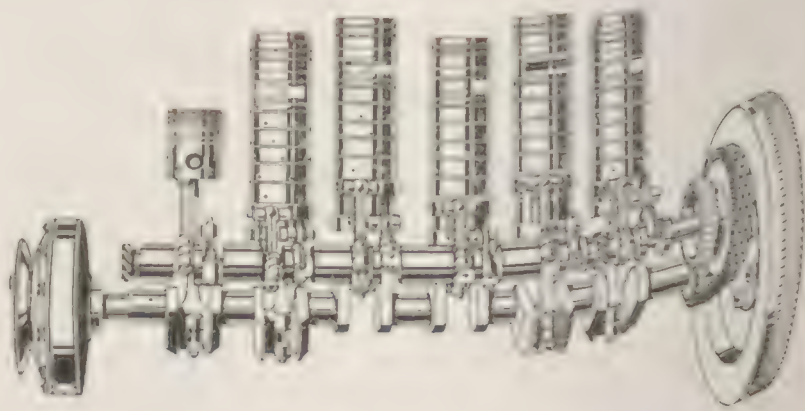
As an indication of the increased engine efficiency, it may be mentioned that we have found the hills which we remember as insurmountable with the old design of engine, are now readily negotiable on top.

During the test we made a point of ascertaining whether the increased efficiency had been gained at the expense of economy in oil and fuel consumption. It was reassuring to find that any fears in that direction were unfounded. As a matter of fact, there was a decreased consumption of both spirit and lubrication when compared with that of the older model over a similar distance.

There is little alteration in the outside appearance of the car. In summing up our impressions of the new Daimler, we are impelled to say that for comfort, speed, and efficiency its makers have outdone their previous efforts. And that, in the best, is an achievement of which the great Coventry firm—and Daimler engineering—may well be proud.



The new Daimler engine is a truly remarkable combination of high efficiency, silent operation, and long life credentials.



The light steel sleeves are only one-third the weight of the older type, and the ports are much larger than before.



The new "light" sleeve-valve Daimler Saloon in a delightful porch-frame—an attractive picture of the very latest product of the Daimler Company, taken from the entrance to the old Castle Inn, Chiddingstone.

PEOPLE AND THEIR CARS

A Motoring Medley in Pictures



1



2



3

1.—Mr. Jack Melford, whose performance in "Stop Flirting" and more recently in "Just Married" at the Strand Theatre has won for him such a host of admirers, tells us that this is the only occasion on record when he was afraid to "let in the clutch."

Miss Margot St. Leger, whose dancing has contributed to so many West End productions, is seen amongst the crowd helping to retard the progress of this Buick car.

2.—A charming scene near the club-house on Brocton Hall golf course. The car is a Bean "Twelve" four-seater.

3.—Here's an attractive picture and a no less attractive car. The 14 h.p. Standard at quaint old-world Leverton.

4.—A party of tourists leave their Bentley car and visit the old lock-up at Shenley, near Waltham Abbey.

5.—The new 40-50 h.p. "New Phantom" Rolls-Royce car purchased by H.H. the Maharajah of Patiala for use during his stay in England, and which met him on his arrival.

6.—The President of the French Republic, M. Donmergue, about to enter his car after witnessing the recent Grand Prix. Although he patronises a car of French origin—the Renault—he favours British tyres—Dunlops.



4



5



6

WHO'S AWAY A-WHEEL

Picturing the Picturesque



7.—Our picture is of the Vulcan "12" which obtained a "Gold" in the recent London-Edinburgh Trial. The photograph was taken above the Devil's Beef Tubs, near Moffat.

8.—A difference of opinion. The owner of the 12-40 h.p. Sports Lea Francis pauses to inspect the old direction post on the Oxford Road which quotes a different mileage to that university city from the distance shown on the adjacent modern sign post.

9.—Surrey possesses many such beautiful lanes as here depicted. The car is an Arrol Johnston.

10.—Be it highway or byway, it is equally as simple to handle the Chenard Walcher car, so sensitive is it to all controls. Our picture was taken in the Chess Valley.

11.—Driven by a Rolls-Royce "Condor" 650 h.p. engine, this new D.H.54 machine will carry 16 persons with luggage at a cruising speed of 110 miles per hour. Capt. de Havilland's Rolls-Royce car is also seen in the picture.

12.—When the owner met this bad patch he exclaimed, "Why, it's almost like the Somme district. It's fortunate I'm driving a Sunbeam."

8

10

12

A R E M A R K A B L E N E W C A R

Something approaching a novelty in our journalistic experience is embodied in the appended article. It concerns a particularly noteworthy new model Hillman car—about which we know everything, but are only permitted to tell little!

ON the principle that half a loaf is better than no bread, we must essay to tell you somewhat of a new Hillman car. To some extent it is wropt in mystery. Whilst we know all about it from start to finish and have studied it minutely in production at the Coventry works, the company has reasons of policy for not desiring the full facts to be published—only just yet, naturally! We are, however, permitted to tell you of its road performance, though as we cannot tell you the size of the engine it is not going to be too easy to convey all that we would like to convey.

Well, it's a new Hillman car! And it's some car. For its size it is quite one of the most remarkable performers we have ever handled. We do not think we are breaking faith in letting the cat out of the bag to the extent of saying that it is in no way unorthodox in design—unless abnormal generosity in combining ample strength with lightness can be termed abnormal. It certainly does that.

To bring our road behaviour comments on this new car home to you, we feel that we must also say that if you think in terms of Hillman, the price of the new model is not going to frighten you unduly. And that's



"How much to teach my wife to drive"?

"Ten shillings an hour."

"Right! Here's fifty pounds on account."

as near as we dare go in that direction.

We are on freer ground when we speak of the car's performance. It is truly astonishing. It is not so much that it has any abnormal speed; it has not, though the 50 m.p.h. mark is readily within its capacity. The point that is so markedly astonishing—for its power—is the easy way it does its 40 m.p.h. and the minimum of fuss or noise involved in such a speed. In acceleration it jumps from the 20 m.p.h.

mark to the fast open road cruising speeds of 40 or 45 m.p.h. in a remarkably quick period. And throughout it conveys the ease and suavity of a much larger engine. The approach of a hill seems to invigorate the engine like a whiff of ozone reanimates the Midlander—there is immediately available an increased measure of energy. It is certainly a remarkable performance unit, in which remarkable performance is achieved by perfecting accepted practice, and without introducing any unorthodox or unproven methods.

There are many excellent features in the chassis, such as carefully studied accessibility, perfected lubrication principles, ample margins of strength where needed; excellent brakes—with notably easy adjustment; coachwork improvements and so on. But as we have already explained the company do not desire us at the moment to publish these details.

We feel, however, that the little we have said and the much we have, perforce, left unsaid, will have whetted your appetite for further information of the new Hillman. We hope, therefore, to refer to this particularly interesting new car again. It is a great credit to British automobile achievement in its class.



"Hang it, that policeman's got us! Slide in here and take the wheel, so you can talk to him."

APPRECIATED APPRECIATION

THE MOTOR OWNER has been honoured with expressions of appreciation from H.M. The King; H.R.H. The Prince of Wales; H.M. Queen Alexandra; and H.R.H. Princess Mary, Viscountess Lascelles.

Some further expressions of appreciation from readers are appended.

From the Marquess of Ailesbury.

"It is a very well-got-up journal and most useful."

From the Earl of Cardigan.

"I consider 'The Motor Owner' quite at the head of its class. You have the happy knack of making your articles instructive, and also most readable and interesting."

From Lord Garvagh.

"It is a very artistic production and must appeal to all motorists of discriminating taste."

From S. F. Edge, Esq.

"I have carefully read through 'The Motor Owner'—a very nice production indeed, and I congratulate you."

From P. Charnaud, Esq.

"To interest, instruct and amuse the average owner of a car—as different from the motoring 'fan'—'The Motor Owner' is unquestionably the finest publication extant."

From the Hon. Librarian—Club.

"Most of our members are motor owners, and undoubtedly yours is the best publication of its kind."

From M. A.

"It is a very admirable production. The make-up is good; the printing is good, and the matter is good."

LORD LOAMLEIGH (pronounced "Lumme") SPEAKS

By CAPTAIN P. A. BARRON

The first authentic report of an Extraordinary Council Meeting for the discussion of Motor Problems

THE general Press has been so busy lately discussing the morals of modern society and the ethics of evolution that insufficient attention has been given to the extraordinary meeting of the Loamleigh Town Council, called to consider modern traffic problems.

Loamleigh (pronounced "Lumme") is the well-known market town close to the better known Loamleigh-on-Sea, named by Lord Loamleigh, whose name, correctly pronounced, is so often heard in the district.

Lord Loamleigh was present at the meeting and sat at the right hand of the Mayor, whose historic chain of office was recently stolen from the police station, where it was kept for safe-keeping. The incident, it will be remembered, aroused much interest at the time as the police station was burgled while the entire staff was working speed traps in the district.

In the public discussion which followed it was urged that if the police could not protect their own official residence, owing to traffic regulating duties, they certainly could not protect the premises of private citizens, and the resulting inquiry led to the introduction of a new Police Regulation whereby it was ordered that not more than 98 per cent. of the force in any district could be engaged at any given time in trapping motorists, the remainder being 2 per cent. to be retained for the regulation of murders, burglaries, armed robberies aggravated by assault, and other minor offences.

The Mayor, opening the proceedings, said the time had come when something had to be done. It was intolerable that the present state of affairs should continue. It was not his duty to do what should be done, but it must be done quickly. (Hear, hear!) The nettle which had been brewing in the air so long must be grasped and ridden underfoot with a firm hand. In his proud position as Mayor of enlightened and enterprising Loamleigh, he felt his responsibilities deeply. In his magisterial capacity it had been his principle to inflict the heaviest fines and sentences allowed by the law whenever motorists were brought before him by the zealous constabulary of Loamleigh. But the danger of dangerous motoring could not be uprooted by nibbling at the subject.

If he might be allowed to use metaphor, he would say that all their shoulders must be put to the plough until they had lopped the branches of this fungus growth, which, like a poisonous snake, was hovering over the town ready at any moment to swoop from a clear sky on unoffending citizens. (Loud and continuous cheers, during which the Mayor resumed his seat.)

Lord Loamleigh, a truly noble figure now in his seventieth year, then addressed the meeting. His Lordship

deservedly heavy fine on the owner of the car for leaving it in such a dangerously stationary condition, and had warned him that if on any future occasion he failed to give audible warning when he saw that he was likely to be run into by a perambulator, he would not be given the option of a fine. They had also ordered the motorist to defray the cost of a new watch to replace the one stolen from the constable by a pickpocket during the excitement caused by the mishap.

Frequent fines, continued His Lordship, might have a deterrent effect, but he felt that a severer form of punishment was necessary. Personally, as one of the old school, he hoped he might say "of the good old school," he would like to see more frequent use of the "cat" in these cases of criminal carelessness.

His Lordship was most heartily applauded, and Councillor Wormhole, the venerable octogenarian dealer in antiques, addressed the meeting.

He said that a few days ago he was carrying a very rare and valuable example of an Etruscan Tear Jug to show to a wealthy customer who had entered his shop. As he was crossing the floor one of these vile and murderous machines called motors gave a hoot like the trumpeting of an elephant in pain, and the noise was so startling that he dropped the Etruscan Tear Jug, which was smashed into a thousand pieces. It was a serious loss, as the customer might have paid one hundred pounds for that Tear Jug, or possibly even more, as he seemed to know very little about antiques.

He had taken legal advice in the hope of finding some way of recovering damages, but as the offending car could not be traced, and as the loss could not be attributed to fire, storm, or an act of God, he was advised that there was little hope.

His view was that motorists should be forbidden to hoot in the town. Why should they? In his early days horses did not hoot when they saw anything in the way. He doubted if a horse could hoot. Certainly it could not make the hideous, nerve-destroying bellowings of these modern Jugernauts.

He—Councillor Wormhole—had the very deepest respect for Lord Loam-

IMPORTANT ANNOUNCEMENT.

"The Motor Owner" and October 8th.

ON October 8th Olympia opens its doors to the 19th International Motor Exhibition.

Owing to the confidential nature of certain information in our possession which may not be disclosed before the Show, and in order that our readers may have last-minute news, the publishing date of the October issue of "The Motor Owner"—a Special Show Number—will be delayed until the opening day of the Exhibition.

This exception to our usual practice applies only to the October issue, and thenceforward the publishing date will be the 1st of the month, as usual.



said that after the vigorous, manly, and eloquent speech of His Worship the Mayor of Loamleigh there was little that he could add. There could be no doubt that the evil of dangerous motoring was bringing the town into reproach. Only a few days ago, there had been a regrettable accident in the High Street. A perambulator containing the infant son of one of the Councillors, to whom he offered his belated congratulations, had collided with a stationary car standing unattended outside the well-known drapery emporium of the happy father. Fortunately, little damage was done, but the infant lost his bottle, which fell to the ground with a crash that caused a crowd to gather, and while attempting to disperse this crowd one of their most respected police constables had his pocket picked.

The magistrates had inflicted a

leigh, but His Lordship's suggestion that occupants of stationary cars should make their machines bellow warnings every time they saw a perambulator approach was, he suggested, with all due deference to the noble Lord, impractical. Personally, he considered that most babies gave as much audible warning as was necessary, and as he—Councillor Wormhole—had some forty-three grandchildren, he spoke from experience. (Cheers and laughter.) He proposed that this meeting should pass a resolution recommending that the use of hooters in the town should be prohibited entirely. If it was considered imperative that noises should be made, then he put forward the alternative proposal that those very musical instruments known as posthorns in the old coaching days should be reintroduced. He might say that he had a very fine collection of antique post-horns which he would be prepared to sell to motorists who desired to pass through the historic town of Loamleigh. He thought that if all chauffeurs were ordered to wear scarlet livery and carry post-horns, some of the picturesqueness of old times would be regained. (Cheers.)

Alderman Bloggs, the youngest member of the Council, who has barely reached his seventieth year, and represents the progressive party, said that the post-horns he remembered in his youth were about a yard long and two hands were necessary to hold them to the lips of the horn blower. He thought that danger might be increased if drivers of cars took their hands from their steering wheels in order to display their musical talent.

Councillor Wormhole admitted he had not thought of that, and amended his proposal. He suggested that a number of Town Criers with bells should be engaged. These Criers would warn the citizens when cars were approaching. He had in stock many



"The Lost Cord"
or the sad story of a spare wheel.

genuine antique bells once used by Town Criers.

Alderman Cobblestonely, chairman of the Local Highways Committee, said that none of the suggestions put forward would cure the curse of dangerous motoring permanently. His own view was that all important centres of population, such as Loamleigh, should be walled towns as in old days. Motors

to see that he is there.

If a driver is travelling along a by-road and wishes to debouch upon a main road, he should, before debouching, stop and send one of his passengers ahead to make a white line with chalk upon the main road, thus marking out a claim. Such marks should be erased before he proceeds to the next turning point.

If a motorist approaches a blind corner without knowing that it is blind and meets another blind motorist on the head, both shall be considered equally guilty, and if they survive shall be liable to imprisonment.

If a dog is leading a sheep, a flock of sheep, a traction engine drawing a train of cars, or a caravan when a car is in sight, the driver of the car shall be liable upon conviction to a heavy fine.

The meeting adjourned after a resolution had been proposed, seconded, carried, that a resolution should be forwarded to the Member of Parliament for Loamleigh



Native: "Be ye tourists?"
Weary Motorist: "No, detourists!"

IMPORTANT NEW DEVELOPMENTS IN THE SLEEVE-VALVE ENGINE.

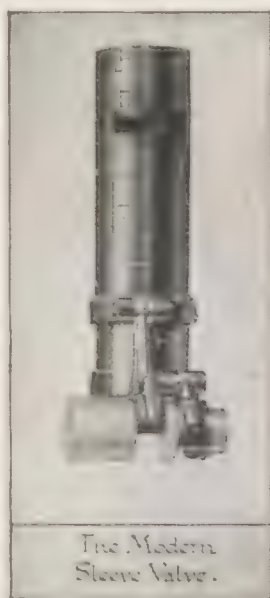
WONDERFUL POWER WITH SILENCE & ECONOMY FROM SMALL MOTORS

Daimlers now rank first for perfect all-round road performance.

NEW DAIMLER 16/55. The Leading Light 6-Cylinder Car.

So phenomenal is the improvement represented by the new Daimler 16/55 and the other six-cylinder models of this series that they have become the most talked-of cars of the moment. For 17 years supreme in smoothness and silence, the Daimler must now also be ranked first in acceleration, hill climbing, and speed. In combining so perfectly qualities hitherto so dissociated the new Daimlers have established a standard of all-round road performance that is as great an advance as was the introduction of the sleeve valve engine itself.

Among the new technical features of interest in these cars, chief place must be given to the use of *steel sleeves*. Their extreme lightness and great port area enable them to sustain high power with perfect balance at speeds up to 4,000 revolutions per minute (65 m.p.h. on the 16/55). The central ignition plugs in the pocketless combustion chambers (which promote smooth running and give freedom from knocking) are connected to a magneto as well as to a coil, either of which can be brought into use, by means of a switch, without stopping the engine. The timing of the ignition is automatically regulated by a governor which simplifies correct driving. The lubrication is arranged on the most approved system of forced feed, and baffle plates are used in order to make the new engines smokeless.



The Modern Sleeve Valve.

Chassis
£490

The new Daimlers have created new motoring ideals. In all matters pertaining to economy of maintenance they are the cheapest. In this connection let it be remembered that the sleeve valve is *the only type of engine in the world that actually improves with use.*

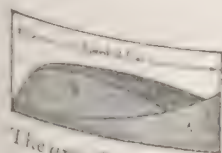
To drivers, the new Daimlers are a revelation in ease, comfort, and speed. Light steering, light action clutch, and gears that are easy to change but seldom need changing. Four-wheel brakes that give absolute security and are always in perfect order because their adjustment is so readily accomplished by turning a handle that is accessible under the bonnet. To passengers, they are ideal as the only cars in which long journeys can be made quickly without fatigue.

If you can afford a new car, you cannot afford to go without a new Daimler for there is nothing equal to them on the market to-day. The 16/55 is the supreme light six-cylinder car and is, in all but accommodation, the equal of the 20/70, which is better than all other cars in the "Twenty" class. The 25/85, for all ordinary purposes, is equal to the previous 35 hp. and costs £200 less. The new 35/120 is a car unique; something that is only for those to whom the finest cars of yesterday are no longer good enough. It is not only in the first rank, but supreme among the best.

Demonstration is better than argument. A trial run will be arranged to suit your convenience.

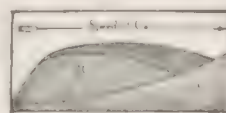
Rating	-	16/55	20/70	25/85	35/120	Rating
Chassis	-	£490	£625	£725	£1100	Price

N.B.—A most attractive new design of inexpensive closed body has been developed for use with these Chassis.

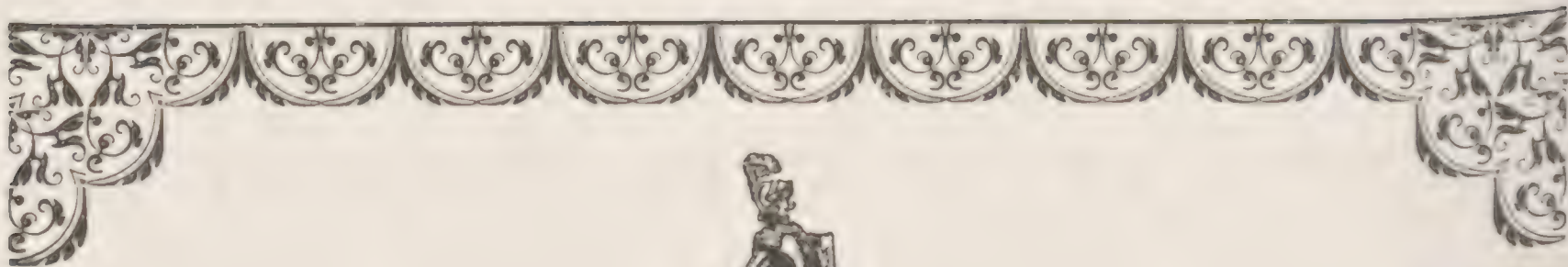


The area C represents the improvement in the new Daimlers.

THE
Daimler
CO., LTD., COVENTRY



A full explanation of this diagram is in the Catalogue.



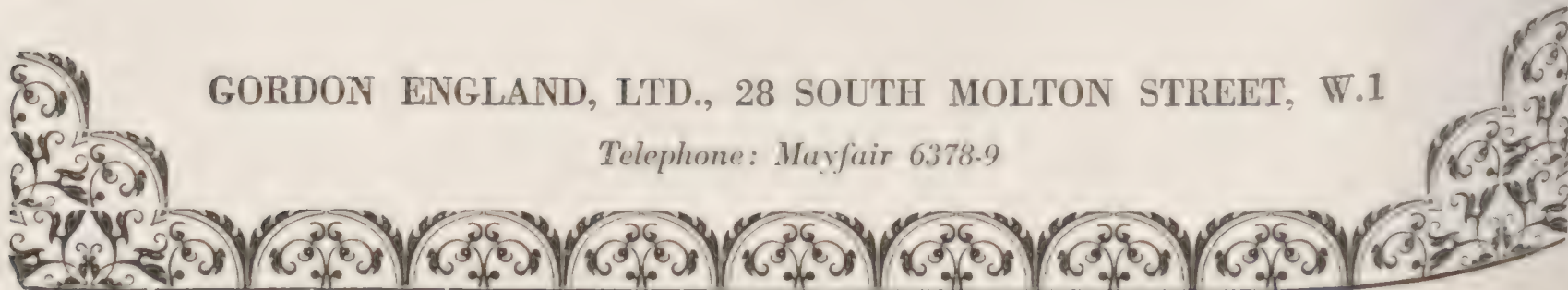
The great majority of private motorists use as their criterion for judging a car's worth its top gear performance. The INVICTA has been designed as a top gear car, on which all normal starts can be made on top gear as can the rapid and easy ascent of such hills as:—Sunrising, Edge Hill, Harley Hill, Titsey, Westerham, Kop Hill, High Wycombe, Netherhall Gardens, Pebblecombe, White Downs, Brooklands Test Hill, etc. Its top gear acceleration is quite unique—it will reach 60 m.p.h. from a standing start in top gear in 30 seconds. Its four wheel braking is excellent, simple and adjustable in a few seconds. "The steering of the INVICTA is a delight" (The AUTO, 14.5.25). Its suspension, steadiness and sweetness are superior to those of most cars of double the price. Its workmanship and refinement of detail are such as are found only on cars costing £1,500 and upwards. Each chassis receives individual attention throughout its construction and each chassis is run in and tested for 1,000 miles before delivery. The INVICTA is guaranteed for 20,000 miles irrespective of change of owner. It is sold with the best possible accessories. In short, it is a successful attempt to effect a radical improvement in motor cars.

CHASSIS PRICE . . . £595
LONG WHEEL BASE £610

Trial runs can be arranged by

GORDON ENGLAND, LTD., 28 SOUTH MOLTON STREET, W.1

Telephone: Mayfair 6378-9



SOME PRACTICAL HINTS

All big troubles are little ones at some time. Thus if you weed out the latter, the former, which always bring inconvenience and unwelcome expense with them, will seldom trouble you. We offer these hints for this useful purpose.

LET us offer a few suggestions for avoiding unusual accidents. Our hope is that they may never be read by any reader of these hints, but, as Cervantes puts it: "Forewarned is forearmed; to be prepared is half the victory."

For instance, it is not probable that the experience of having a blade break off the radiator fan has come your way. But we heard of such a mishap quite recently, and, unhappily, the circumstances under which it happened were attended by fatal results, for the driver was making an engine adjustment at the time.

The moral to be drawn from this lamentable occurrence is that you should never stand in line with anything revolving at a high rate of speed. If necessity demands that you should be near it, select a position in front of, or behind, the line in which it is revolving.

Adopt the same safeguard with regard to the flywheel. Even in these days of almost perfect construction, flywheels do burst occasionally. Certainly such an event is most unusual; but even the most careful selection of material, and the utmost care in manufacture are not proof against a hidden flaw in the steel.

In the particular case of such an accident which we have in mind, the rotating flywheel not only smashed up the chassis of the car, but, continuing its flight, went clean through the wall of the house. It may be added that the engine was not running full speed at the time.



Don't be dazzled. If you cannot adjust the driving mirror "out of line," then the above practical hint might help you.



You can keep out those blinding rays which penetrate the rear hood light by the simple hint depicted—the attachment of a piece of canvas or cloth over the window.

This incident shows the necessity of keeping clear of the line of direction in which the flywheel is rotating when racing the engine for tuning up with a stationary car.

We would also offer a warning against jacking up a car on a steep hill. If a puncture occurs on a hill, the car should be brought down very gently to level ground. There will be no damage to tyre or tube if the operation is performed with due caution.

When circumstances demand that the car shall be jacked up on a hill, the added precaution should be taken of scotching the wheels, and leaving the low gear engaged. The front wheels should be turned towards the kerb, this will prevent the car running more than a foot before it is pulled up. It is not wise to rely solely upon the hand-brake under such conditions. The little "detent" (the tooth which engages the ratchet) may break.

When driving an old car with loose boards, make sure that there is no danger of the boards jumping up on a bad road and jamming the brake and clutch pedals. The great majority of modern cars have the footboards made fast, but there are a few which have not adopted this common sense arrangement.

And the "lastly" of this sermon of precautions is: remember a possible change of position in the brake pedal if you are driving a car to which you are unaccustomed. To find the brake pedal on the right of the accelerator when you expect it to be on the left is



If you must stop on a steep hill, take all precautions against the possibility of the vehicle getting into motion. A spare petrol can provides a reliable safety device in case of emergency; but on all occasions when pulling up to the roadside on severe gradients turn the wheels to the curb as depicted above. This will obviate the risk of your car running away—and they do sometimes!



an experience you will not desire to repeat. Some day the relative position of both pedals will be standardised—may it come soon!

On Night Driving.

As the long summer evenings have departed, alas, a few hints which will help to dispel the difficulties of night driving may prove acceptable.

Reflections on the wind screen are a frequent source of trouble, and we are afraid will remain so until some inventive genius devises a scheme which will abolish them altogether. In the meantime, we must use the methods which come to hand: any hints we can offer on the subject are, frankly, merely of a palliative nature.

A good idea is to leave a small opening in the windscreen. If your



You need the best light possible at night: then adjust your headlamps accordingly. The left or near side lamp should be nearly upright and focussed to throw a narrow beam of light straight up the road.

car is fitted with a single one, set it so that you can see ahead without looking through the glass. In the case of a saloon type of car, lower the side windows until their tops are just below the level of your eyes.

Of course, in most cases, this exposes the driver to weather inflictions, but sometimes it is possible to adjust the angle of the windscreen in a manner which will minimise the danger, and yet afford some measure of personal protection.

A curtain should be provided for the window in the back of the car or the hood. Without this safeguard, a following car with powerful headlights will often cast a dazzling glare on your windscreen at the precise spot through which you wish to look.

It is not wise to depend on a driving-mirror for night work, but in any case, it should be adjusted so that following head-lamps are not reflected in your eyes. If it is decided to abstain from



If you wish to let the engine run in the garage, make certain, whenever possible, that the car's poisonous exhaust gases are carried out into the open. The easiest method is to attach a length of piping to the exhaust pipe and thus carry it to the exterior.

its use, it should be masked by a temporary cover.

On Garage Ventilation.

It is to be feared that the majority of private garages are not worthy of the excellent cars which they house. This applies more particularly to the question of proper ventilation.

When it is not practicable to test the running of the engine in the open air, it is most necessary that the garage should be overhauled from the point of view as to whether adequate provision is provided for getting rid of exhaust fumes. A few months back, a case came under our notice where a death occurred through neglect of this vital point.

To obtain reassurance on the matter of ventilation is usually quite a simple matter, but if it means expensive structural alterations, there is an easy way out of the difficulty.

A length of piping of any material, but about the same bore as the silencer



Another useful hint to prevent a car running down a hill is to put the gear lever in "low" and switch off the engine.

should be obtained. One end should be led out into the open, the other connected up to the exhaust pipe. If care is taken not to leave any leaks at the junction of the pipes, all danger of escaping fumes will be obviated.

On Adjusting the Headlamps.

It is incontrovertible that a great amount of dazzle trouble is caused through incorrect adjustment of the headlamps.

The principal essentials, both from the standpoint of the driver and of the road-users, is that the beam of light from the headlights should be directed straight ahead, and parallel to the surface of the ground.

Providing this arrangement is adhered to, the actual focussing of the filament may be "long" or "short."



The right or offside lamp should be adjusted so that the light is thrown upwards and slightly to the left, the left lamp focussed so that the general beam meets the road about 25 yards ahead, while the left outer edge of the ray should just catch the edge of the road.

long straight beam thrown what we favour; but for those who do not see particularly well, a diffused beam is more suitable.

Some headlamps have an adjustable local range, others have three positions, into any one of which the holding pin of the bulb can be moved. When a long beam is required, the pin must be put well back—in the far notch if the carrier is notched. Of course, a diffused beam is obtained by using the position nearest the lamp.

To restrain the tendency of a lamp to shine upwards or downwards, a little piece of paper as packing at the top or bottom of the circular metal end of the bulb.

If the beam carries too high, the packing must be packed so that it is higher. On the contrary, it strikes the road too soon, the bulb must be packed down. A little thought will explain the reason for this apparent anomaly in adjustment.

THE SALOON MAGNIFICENT



THE NEW FOREST

PULTENEY BRIDGE BATH

THE INTERIOR OF THE PULLMAN
—AND REFRESHMENTS SERVED
ON BOARD!

A "MOTORWAYS" PULLMAN

CASTLE COOMBE, A GEM—

CASTLE COOMBE is certainly one of the prettiest villages to be found in the country and should not be missed by anyone when in the neighbourhood of Chippenham, from which it is about six miles distant. The Castle, from which the town gets its name, has long since disappeared. Built in Norman times by a Dunstanville, whose family were then Lords of the Manor, only fragments now remain on the hill-side to mark the spot.



In what was presumably the village square is the famous Market Cross, consisting of a square stone pedestal ornamented with many carved devices and heraldic shields. At the base are two very substantial stone steps, while a high peaked roof covers the whole.

The old moss-grown tiles and pinnacled top complete a charming old-world picture. Castle Coombe once was a busy mart for the farmers and clothiers—has not West of England cloth always been famous?—but not much business in that commodity is done now.

The road to the Manor House lies between the Church and a row of little grey stone cottages, each a delightful little cameo in itself.



(1) A light refreshment in one of the many delightful cottage gardens. (2) The beautiful three-arched bridge and the picturesque buildings present a very attractive scene. (3) A charming corner of the village which meets the eye from beneath the archway in the square. (4) The Dowry House, a fine specimen of seventeenth century dwelling. (5) There are many pretty porches throughout the village, and one of the best is here depicted. (6) The old market cross.

— OF THE WEST COUNTRY

the employees on the estate live. The very fine Church should be visited. It has a glorious roof of fan-tracery and is a fifteenth century edifice. It is a monument to the generosity of the wealthy clothiers of the West Country. The window in the Lady Chapel is as instructive and interesting as any book of Heraldry, displaying as it does the arms of the various members (adopted and otherwise) of the Scrope family, who held the manor for 500 years.



The Dowry House is close by and is a fine specimen of the seventeenth century dwelling. At the other end of the little street, lined with quaint little shops and houses, each distinctive in its own way, a stream of water issues from the park, forming a little pool wherein some fine speckled trout. A pretty little bridge of three arches crosses the stream, and the whole forms a most pleasing picture for the artist, or the more frequently met-with photographer. The village abounds in pretty little nooks and corners to tempt the motorist, and there are some fine old houses with mullioned windows and tiled fronts.

K. M. B.



used once to be an active market for the early West Country cloth makers. (7) The High Street, Castle Coombe, is flanked by buildings of many centuries' standing. (8) The picturesque old smithy here depicted is visited by nine out of every ten visitors. (9) A delightful contrast to the flowered porch on the opposite page. (10) Close by the old market cross stands an ancient and now disused fountain, which offers tired tourists a welcome resting place.

THE RUBBER MARKET PROBLEM

The serious effect of the present situation on an important industry. At the moment there is actually a rubber deficit of something like 40,000 tons

WHILST everyone interested in the manufacture of products embodying rubber as a constituent is keenly alive to the dangers of the present situation, we have adequate grounds for stating that the motor industry of this country is viewing the abnormal price of rubber with grave alarm. In fact, one is not unduly alarmist in querying whether the price of rubber will not force up the prices of the less expensive cars.

That this is not necessarily an exaggerated fear may readily be realised by a brief survey of the pertinent facts. The five tyres supplied with a small car may be taken as costing from £20 to £30. The manufacturer of tyres who has to buy rubber now for his 1926 programme has to pay nearly 100 per cent. more for the requisite rubber than he did this time last year.

A further insight into the present situation is readily gleaned from studying the plain facts of the stock of rubber available in Great Britain. During the first six months of 1924 the stock averaged 58,955 tons per month. This year it has been gradually falling — almost to vanishing point — as the following table shows:—

	Tons.
January ..	29,583
February ..	25,352
March ..	19,913
April ..	14,171
May ..	6,579
June ..	5,978
July (estimated) under	4,000

As the current requirements of the United Kingdom are over 2,000 tons per month, it does not require much vision to see that the recent heavy increases in price of tyres cannot be the last, unless some immediate action is taken.

Another very simple, though equally telling, method of gauging the seriousness of the present situation is to compare the average highest

and lowest prices for plantation rubber per lb. during the first six months of last year and the first six months of this year. They are respectively: Highest price average for first six months of 1924, 1s. 0½d. per lb.; lowest price average, 1924, 11½d. per lb. The highest price average for the first six months of 1925 is 2s. 1½d. per lb.; and the lowest price average 1s. 8½d. per lb.

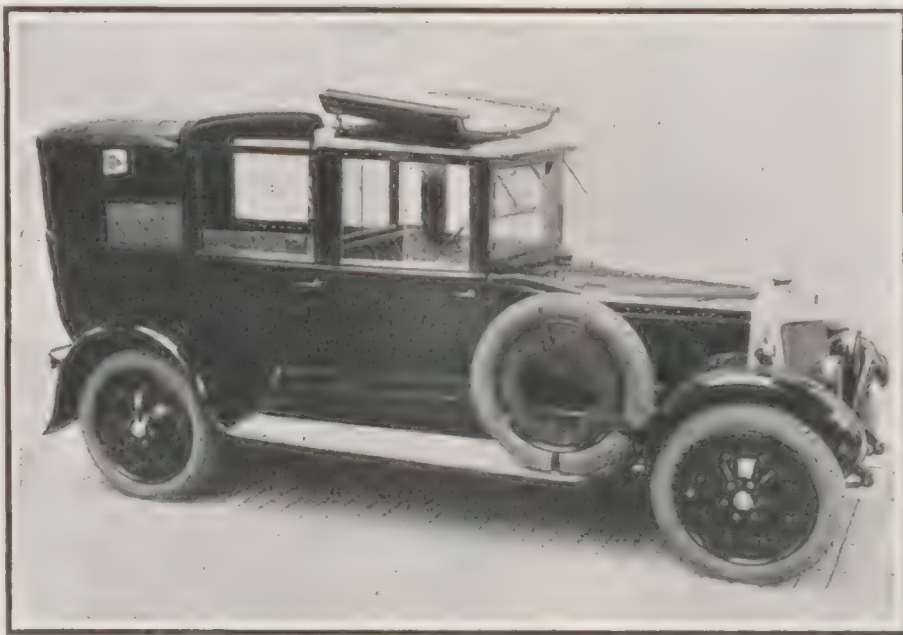
Taken even on the six months' basis, therefore, the all-round average shows 100 per cent. increase this year; the increase for the month of June, the last month's statistics available at the time of writing, shows no less than the stupendous advance of 242 per cent.

So far as may be practicable, we desire to refrain from mixing business facts with politics and similar kindred potential causes for the effects. The vital point at the moment is that Britain must not be so exhausted of rubber supplies, or forced to pay such fantastic prices, that the cost of tyres and other rubber-using commodities

shall increase enormously as present indications warrant the fear. Apart from Stock Exchange gambling—admittedly in part responsible for the abnormal prices of the past few weeks—the main cause of the high price of rubber is the age-old factor of supply and demand.

Under what is known as the Simon Restriction Scheme, the output of Malaya and Ceylon is restricted. The idea was adopted some three years ago when Mr. Churchill was Colonial Secretary. Rubber was then 6½d. per lb. and production unremunerative—as the average cost of production may be taken as about 8½d. to 9d. per lb. The intention of the restriction was to make the price economically sound and secure approximate stabilisation of price. The figures already quoted show how completely circumstances have changed. Instead of rubber slumping in price, there is at present a deficit between world shipments and world requirements of some 40,000 tons. Until that deficit is made good with a reasonable margin of balance in favour of production, the price of rubber cannot again become stabilised at a normal price. It is reasonable to demand, therefore, that the Government should reconsider the position, so that the Restriction Scheme may be rendered sufficiently elastic to avoid the further important increases in the prices of tyres and other commodities in which rubber is employed. Immediate action is necessary to that end, or these further threatened price increases are inevitable.

For our own part we are not concerned with the political atmosphere which has been attached to the problem in some quarters. It appears to us a plain business matter requiring a business settlement.



THIS 18 h.p. Armstrong-Siddeley is fitted with a landaulette body which has been specially adapted for the use of its owner, who is afflicted with an injury of the spine. In order to allow him to enter and leave the car without bending, the centre portion of the roof is made to hinge forward. The rear quarter lets down in the ordinary manner, and the hinged portion when folded flat is quite unnoticeable.

COVENTRY, THE HOME OF THE CAR

By GEORGE E. GOLDIE

In these days the town of Coventry is so pre-eminently associated with car manufacturing, that few of us stop to think of its other claims to consideration. That it has many, the author abundantly proves

CARS come from Coventry just as coals come from Newcastle. In fact, were it not that very little coal is forthcoming at all at present, we might put it arithmetically, thus:

Coventry is to cars as
Coal is to Newcastle.

It would interest readers of THE MOTOR OWNER, therefore, to hear something about Coventry. I must confess that before I visited Coventry I never associated the romantic or the beautiful with that city. To be consigned to Coventry was a term of opprobrium until I actually went there.

Coventry has its charms as well as its cars. What place in the world has not its charm and its beauty? Sheffield has its steel but it has its beauty too. What is beauty? We should know something by now about the relativity of art. The Hudson memorial is divinely beautiful. Beauty and art are not objective; they emanate from the critic. That is the standard and criterion.

At all events, Coventry has its cars—a maelstrom and a labyrinth of them, a succession and procession of them, a stream of them running through the narrow streets like rats following the piper of Hamelin, from the Armstrong Siddeley works, the Swift and the Singer, the Standard, the Morris and the Daimler. Hundreds of them running out of the factories day by day into the land; little two-seaters and strong slipping about, and stately majestic machines like the Siddeley manœuvring in a most magnificent way.

Coventry began business with wool in the fourteenth century and then went in for clock-making. In very early days the top floors were usually workshops with large windows extending from side to side. The clock-makers worked for themselves in their own houses like the Flemish lace-makers. Some writers on the economy praise that system. Others denounce it. Some say that it safeguards the dignity of human labour by giving men their independence and a personal interest in their work. Others say that it is psychologically bad to have one's workshop. Anyhow, the clockmakers have all gone, crushed

by foreign competition or some other fiendish element, and their upper floors have been converted into living rooms to relieve slightly the overcrowding of the city.

Coventry then took up bicycle manufacture. It is at first sight difficult to account for the transition. But after considerable thought it becomes apparent that bicycles as well as clocks have wheels; so that their relationship is not so very remote. Association of ideas—that is the key to the secret of human reasoning. Watch, bicycle, steamroller or *vice versa*—that is the system of our thinking. This is noticeable in engineering, where a pin seems to be allied theoretically with a hydraulic crane, or a plain pulley with a differential gear. On taking a car to pieces one is amazed at the ingenuity of the devices. One is still more amazed at their ingenuousness, as Mr. G. K. Chesterton might put it. It seems almost puerile to pump oil along as it is done, simply by pushing it unceremoniously in the only direction it could possibly go, or by squeezing it with gears and sending it one way or the other. Take the friction clutch, for example. Surely that is too simple to be scientific! It is, moreover, ludicrously unsophisticated. The principle is that one surface presses against the other, and that as long as the surfaces press they will revolve together and work in unison. But should one surface slip by any chance, just slip—a thing which anyone is apt to do—one surface will turn without the other and the car will cease to move. Now just one little catch might clinch the clutch and prevent any accident. But in that case the clutch would also cease to work. The cardan shaft is another example. It is a most unsatisfying organ. One would expect to see its extremities secured with block, bolt and bar. Yet, like the clutch and many other parts, it must have its freedom to work effectively. It chafes at restraint and succeeds best when it seems most insecure.

Many of the principles of motor engineering seem to an amateur to be embryonic conceptions or mechanical ideas in an evolutionary state, and the successful working of a car appears to depend upon something which has not been fully thought out. To a profes-

sional engineer this is not the case, for one of his basic principles is to do work with a minimum expenditure of energy and material. If he could suspend a bridge from a thin strip of steel he would be happy; and if the pressure of a friction clutch is sufficient why use an elaborate system of gears?

Coventry is well worth a day's visit, especially for the motorist, as Armstrong Siddeley and other firms are quite pleased to show visitors over their works and explain the processes of manufacture from beginning to end. An enthusiast might, indeed, spend a pleasant afternoon over a sparking plug or a carburetter. There are bound to be aspects of the case which he has never seen. And to know more about a carburetter means a world of difference.

Then Coventry is very central. It is equidistant from London, Bristol, Liverpool and Hull, and if it is not actually the most central town in England it adjoins a claimant to that distinction. Leamington, it is said, is the centre of England. Some people still more geometrically minded assert that Leamington is said to have a tree which grows in the dead centre of England. Such it is to have a mechanical mind.

This, at any rate, is nearly certain—that no town could be so old and so modern as Coventry. Some towns are entirely new; for example, Bournville, Port Sunlight and Golders Green. Some are irretrievably ancient; for example, Nuremberg, in Germany, the mediæval character of which is jealously preserved. There are a few towns left where one is inclined to leave the car at the gate or outside the walls and steal timidly into the ancient citadel. One's feudal instincts rush to the surface; and hastily hiding the car and slipping off one's dungaree and goggles one marches half diffidently, half boldly, and half hypocritically over the drawbridge to review the remains of the distant past. After looking furtively round the old place for fifteen minutes the past begins to pall on one, and it is not without a feeling of relief that one creeps into that car again.

There is no reason to be shy about Coventry. It never had a castle, and the city walls have gone. Yet the old

and the new are thrown indiscriminately together. There are the remains, distinctly visible, of a Benedictine priory which was founded in 1043, and a short distance away is the factory of the Morris cars. The fourteenth century St. Mary's Hall, with its truly exquisite window, adjoins the modern town hall.

One should first direct one's steps to the Collegiate Church of St. Michael, which was founded in 1373. It is really sublime. If any man has any beauty in his soul he will love to linger in that wonderful building. It is a long low edifice in the Perpendicular style with a graceful spire 295 ft. high. The glory of the place are its windows, which hold one enthralled, and the general atmosphere of remote antiquity which pervades the building. Adjoining St. Michael's is Holy Trinity Church, which fully deserves a visit, and close by are the Benedictine remains to which we have already referred. The fourteenth century St. Mary's Hall, with a window and piece of tapestry which are known to art lovers, is also in the vicinity. Outside St. Mary's Hall are the city stocks.

One should then go to what is known as Ford's Hospital—a wonderful specimen of sixteenth century architecture. This does not stir the emotions as St. Michael's Cathedral does, but it does compel our admiration. The first sight of this almshouse comes almost as a shock. There is an aggressive incongruity in the existence in our day of this relic of sixteenth century architecture. It is perhaps out of pity that the Americans have made application to take it to pieces and remove it to the States. There is another very beautiful almshouse known as the Bablake Hospital. This building, with its beams and cobbled forecourt, presents a no

less incongruous appearance than Ford's Hospital. It is a delight to spend a few minutes in a past century. The setting and the local colour are there, and there is the necessary quietude. It only requires a little concentration on the past to complete the transformation. This concentration is done by closing one's eyes and thinking about Cromwell, halberds, breastplates and armour, Shakespeare and the Star Chamber, or anything that one remembers as having happened between the year 1066 and, say, the accession of Queen Victoria. Many history books close at Queen Victoria's accession, and the pre-war or Victorian era begins its august course.

Having returned to consciousness, one should visit Christ Church, which is another gem of architecture, and finally, as regards churches, the Catholic Church of St. Osburg, which is in the care of the Benedictine monks and which thus carries on the spirit and traditions of the original Benedictine priory founded, as we noted, in 1043. We must not omit a visit to the municipal library, certainly one of the best in the country. It contains an extensive collection of books and journals dealing with every aspect of the pursuit and industry of motoring. The book lover can regale himself here on any subject he likes.

Motor manufacture is, of course, the great industry of Coventry, as is at once apparent. But other industries are represented. There are large electrical works, tool and chain making factories, and an artificial silk factory. There is a progressive corporation and a population of over 130,000, which is animated with a keen civic spirit. All the accessories of modern civilisation are municipal property—mortuary and

cemetery, fire brigade, tramways, omnibuses, water, gas and electricity. This must make for co-operation and economy. The one distressing feature is the existence of innumerable squalid little courts lying at right angles to the main thoroughfares. These have only one outlet and no air, and are greatly overcrowded.

We have now seen most of the sights, and our sojourn in Coventry is coming to an end. Leamington, Warwick and Stratford-on-Avon and the George Eliot country should provide one with another day's entertainment. We should mention, by the way, that in addition to George Eliot, who went to school in Coventry, Coventry is responsible for two other famous women, namely Lady Godiva and Ellen Terry. Even may not consider this a fair proportion, but she can console herself with the reflection that Lady Godiva was a pioneer of modern dress, and that George Eliot and Ellen Terry have delighted the hearts of thousands of people.

Coventry's future is quite safe in spite of the gloomy prognostications of our pessimists. One member in about thirty-five of the community owns a car; it is anticipated that in five years there will be double the number of owners, so that the volume of the city's trade must be in the ascendant. Still it is well to sound a warning note, only to keep the pessimists company. An eminent expert predicted recently that petrol will not last as a fuel and that we shall revert to coal. Coventry can continue its work in spite of such prophecy. If there is trouble in the Caucasus and the supply of petrol ceases, the cars will remain for many a day to come and Coventry will go to Newcastle and put coal into its cars.



An excellent view of one of the spacious departments of the Armstrong-Siddeley factory at Coventry.



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A QUESTION OF BALANCE

By CAPT. W. G. ASTON

Perfect balance of all working parts is essential for the efficient running of an engine, and this all-important subject is fully dealt with below in clear and comprehensive language

In my last contribution I dealt with the phenomenon of "shimmying," or wheel wobble, analysing its principal causes and indicating certain steps which it is desirable to take if the trouble is to be completely overcome. The subject was, however, not completely dealt with as there is a factor which can either be responsible for shimmying on its own account, or at the very least can encourage shimmying to take place, to which I did not refer. This is any tendency on the part of the front wheels to be out of balance.

A purely symmetrical wheel is one which is perfectly circular and revolves upon a hub which is fixed at its precise centre and at the same time has a distribution of weight so uniform that when poised upon the hub, which we are to imagine entirely frictionless, the wheel when placed in any position will always remain in that position and not seek to take up another.

The question of balance becomes of overwhelming importance in the fly-wheel of an engine which is capable of turning at a high speed. But in a way it is still of importance even when the wheel has to turn at quite a low speed as it is the road wheel of a car. Now, an ordinary wire wheel carrying a pneumatic tyre is to be regarded as a very accurately made thing. There will not be very much departure from true circularity about the rim, the hub will be exactly in the centre of the wheel; and as for the tyre itself, this having uniform thickness of wall and tread all the way round and containing a tube also of uniform thickness, would, one would say, fairly approach to perfect symmetry.

As a matter of fact such is very far from being the case. The ordinary wheel as fitted to the ordinary car, that is to say without having received any balancing treatment in the form of counterweights and so forth, is not only out of balance but very badly out of balance. The principal cause for this is the existence of the valve. But even when this is balanced by a lump of lead attached to the wheel at the opposite end of a diameter it will rarely be found that good balance has been established. In other words, there are big varieties and discrepancies in the pneumatic cover, and there are also departures from uniformity in the rim and the spokes.

In order to balance a wheel the simplest way is to jack up one end of the front axle and mount the wheel upon the hub, first having seen that the latter is capable of revolving very freely. When released the wheel will naturally fall with its heaviest part to the bottom. Lead wire of about eight gauge can now be wound spirally round the spokes which are opposite this bottom

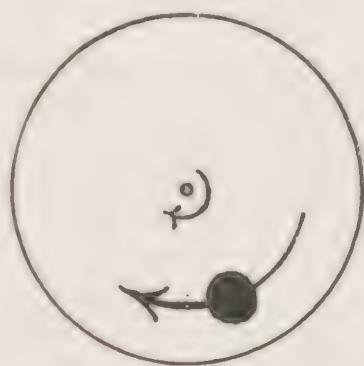


FIG. 1.



FIG. 2.

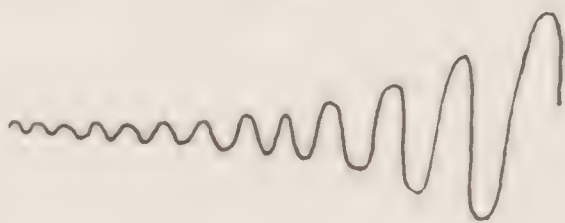


FIG. 3.

point. But as a rule it will be found necessary to wire to the spokes a fair-sized blob of lead to counterbalance the valve. This procedure is pursued until the wheel will stop in any position in which it is placed, showing no tendency to oscillate. After that the lead spirals can be finished off with a wrapping of insulating tape and a coat of varnish.

It is important to remember, for I find that this point is overlooked, that if one has a puncture and the tube is subsequently repaired, the balance of the wheel will be upset unless one takes the necessary steps to ensure that the

cover is replaced on the wheel exactly as it was before. If the cover is, so to speak, reversed, then the distribution of weight will be quite different to what it was, hence a fresh balancing treatment will have to be carried out.

Now let us look into the problem of why wheel balancing should be required at all. Supposing, as in Fig. 1, we have a wheel which is badly out of balance, there being a concentration of weight as indicated by the black spot. When such a wheel is rotated it will tend to make the hub on which it spins go round in a circle, for it must now be realised that the centre of gravity of the wheel is no longer its geometrical centre. Taking an advanced instance of an unbalanced wheel, let us consider a person spinning a walking-stick round with the crook upon his finger. The centrifugal force of the rotating stick will be along the axis of the stick, and it will pull the finger always in that direction. Hence, when the stick is being spun round the finger also moves round in a circle. In the case of the front wheel of a motor car this absence of balance tends to make the front axle rotate in a circle, but its action is restrained by the anchorage of the axle which is such that it can only move up and down. We thus have the unbalanced wheel trying to make the axle move, but restricted to moving it in one direction only, as indicated in Fig. 2. In these circumstances the front axle will oscillate up and down with every revolution of the wheel. The extent to which this oscillation will be felt by passengers in the car will depend upon its amplitude, and this in turn will depend upon the amount of weight by which it is out of balance. Conditions, however, can arise in which the oscillation in question tends to exaggerate this.

Let us suppose that the front axle when bounced upon its tyres has a natural period of balance of 300 a minute (this, by the way, is an entirely hypothetical figure) and it will depend, of course, upon the weight of the axle and upon the pressure of the tyre. Now let us suppose further that the car is travelling at such a speed that the front wheels are revolving at 600 revolutions per minute. We shall now have the front axle oscillating up and down 600 times a minute, which is a

plain multiple of the speed at which it would naturally oscillate. The oscillations instead of dying out tend to amplify one another, and each successive one tends to become greater in amplitude. As the critical speed is reached the bouncing of the axle will increase as suggested in graph, Fig. 3.

As I pointed out in my last month's article, any conditions of wheel bounce can, and generally do, involve wheel wobble and shimmying on account of the arrangement of the steering links, etc., so that merely taking the unbalance of the front wheel into account we have a plausible explanation for wheel wobble without concerning ourselves with any other factor.

It is quite clear, however, that an unbalanced wheel is not solely responsible for this troublesome phenomenon. According to my own experiments the balancing of front wheels to a very high degree of accuracy did very definitely reduce wheel wobble, but did not entirely eliminate it. Whilst on this subject I am inclined to think that although the job is rather a troublesome one the balancing of wheels is well worth while even if one's car is not a particularly fast one. If it is a sporting model the wheels should most certainly be balanced, as any racing driver will testify that with unbalanced wheels a car can very quickly get completely out of control. I am not suggesting that at ordinary speeds any such thing is likely to happen with the average car; but at the same time, if it confers no other benefit, balancing the wheels imparts a greater sweetness into the steering and certainly reduces the wear and tear of the machine. It follows that if the axle is being constantly oscillated up and down as it must be by an unbalanced wheel, unnecessary stresses

OUR INFORMATION BUREAU.

A WELL-ORGANISED Information Bureau is always available to "Motor Owner" readers. The service it gives is entirely free. It does not matter as to what species of automobile information you seek, your enquiry will always receive prompt and expert attention. This service covers not only the car and its appurtenances, its equipment and possible defect or improvement, but also touring information, routes, hotels, etc., both at home and abroad. In fact, anything and everything directly or indirectly connected with motoring. Enquiries should be addressed to the Information Bureau, "The Motor Owner," 10 Henrietta Street, Covent Garden, London, W.C.2.

are being applied to everything concerned, and I do not think it would be very difficult to prove experimentally that the cover of a balanced wheel lasted considerably more miles than that of an unbalanced wheel.

There is one small point in connection with this matter that may be touched upon. When one has a disturbing force which one desires to eliminate it can only be checked by the creation of a second disturbing force acting in an opposite direction, so that the two accurately cancel one another out. In the process of balancing a road wheel one puts one's lead wire on a spoke or spokes opposite the valve, but if the tyre is a low pressure one fitted to a rim of the Dunlop or "well" pattern one does not by this means get really true balance, for with this rim the valve sticks out at the side. Of course the degree of unbalance one gets as a result is much too small to

be worth worrying about. I mention the matter, however, to show the difference, which is not always appreciated, between static balance and dynamic balance. In Fig. 4 we have the section of a flywheel. If I take a drill and remove from the point P at one end of a diameter an ounce of metal and then remove another ounce of metal from the point Q at the other end of the same diameter I shall not have maintained the balance of my flywheel. It will be in static balance, that is to say when free to move on its own axis it will remain in any position into which it is put, but on the other hand when it is rotated at speed it will give rise to vibration. This is because the points P and Q are not in the same plane with one another. To get perfect balance when metal has been removed from the point P it is necessary to take an equal weight of metal away from the point X. This state of affairs has a considerable bearing upon the design of engines in respect of the balance of which great progress has recently been made.

To give a case in point, the two cylinder crank-shaft shown in Fig. 5 is not balanced, whereas that in Fig. 6 is perfectly balanced. The four-cylinder crank-shaft indicated diagrammatically in Fig. 7 is balanced, but it is not so well balanced as that shown in Fig. 8, where each throw is separately counterweighted. When the crank-shaft in Fig. 7 is rotating, the centrifugal force of the webs and crank pins will tend to distort it and will, consequently, have a bad influence upon the wear of the bearings as well as upon the balance of the engine. In the case of Fig. 8 the centrifugal force of each throw is separately neutralised, consequently there is no tendency for the shaft as a whole to depart from truth.

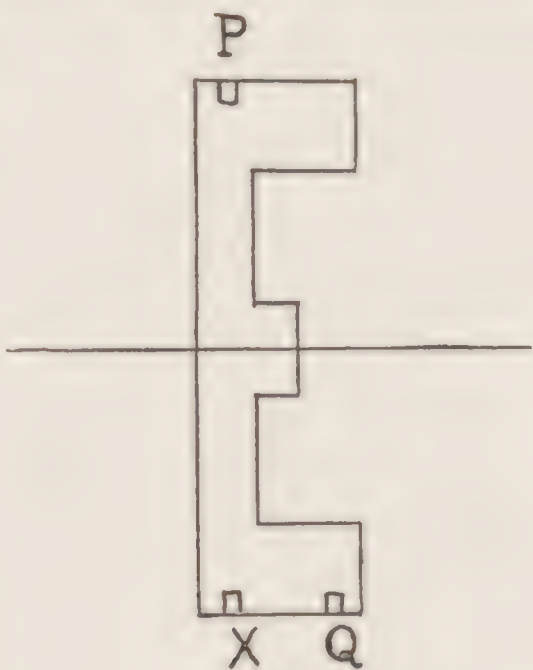


FIG. 4.



FIG. 5.

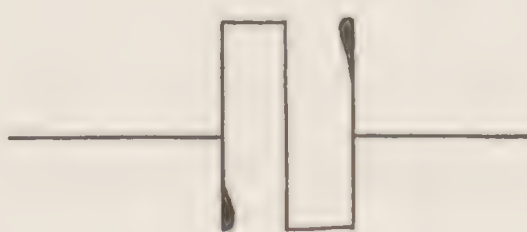


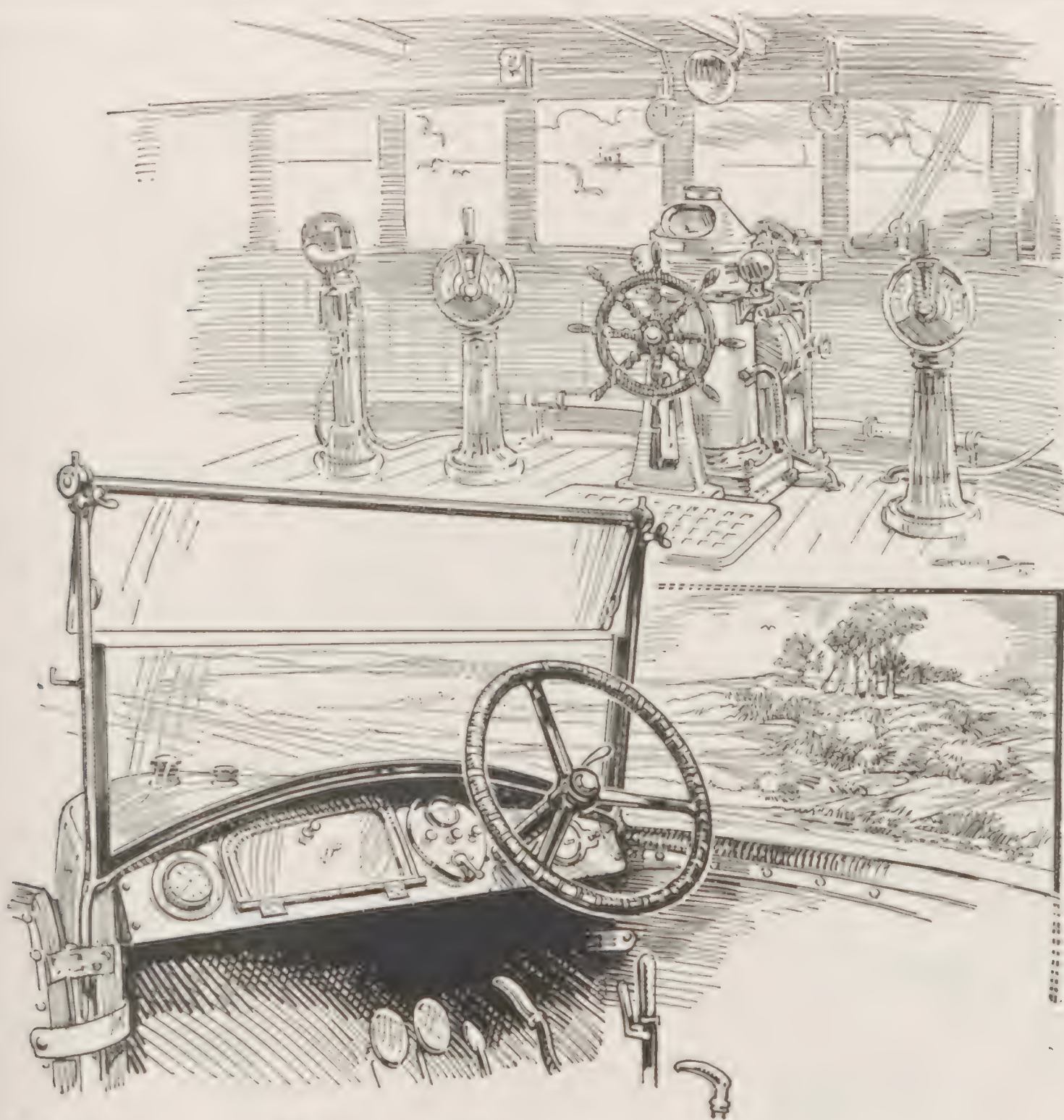
FIG. 6.



FIG. 7.



FIG. 8.



Once aboard— — —!

Every operation in navigation is under the Captain's control. From his post on the Bridge, mechanical appliances translate his slightest wish—and the Great Liner obeys.

Just as the captain would scorn to make his crew dive for the anchor, or get into the water to swing the propeller, so would the driver of a Trojan smile if you suggested his getting out to start the engine, or to prime it. He has every control within easy reach of his hands and feet: *there is never any need to get out.*

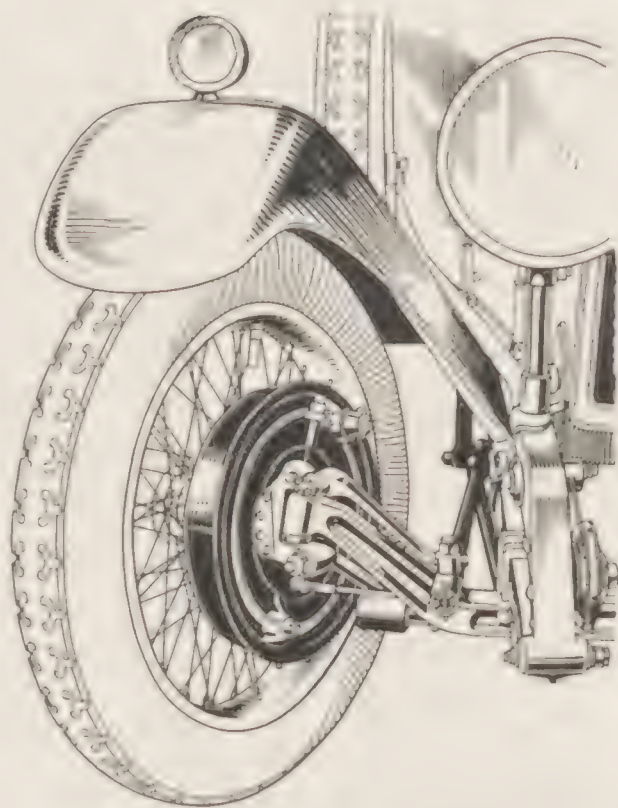
The Trojan is made by Leyland Motors, Ltd., Kingston-on-Thames, Surrey. The price on solid tyres is £125 complete; fitted with full pneumatic equipment £130. Write for further particulars of this really wonderful car.

Trojan

THE 21/70 H.P. 6-CYLINDER ALFA-ROMEO

A Superlative Expression of Automobile Efficiency

THERE always was something fascinating in the steady, effortless progression of a really big car; and even to-day, when the light car has reached a really amazing pitch of efficiency, the big car fascination remains. "Big," of course, relates to performance rather than to engine dimensions nowadays; as an instance, the Alfa-Romeo touring car—surely a superlative expression of automobile efficiency—labours under a Treasury rating of only 20.9 h.p. Yet its six cylinders will propel it at a speed of something like 65 m.p.h. with full touring kit. It may be argued that a small engine can readily be "hotted up" to give an even greater speed; but the charm of the Alfa-Romeo is in the feeling of confidence which is inspired by its extraordinary steadiness at extremely high road speed. "Cornering" at speed



Shock absorbers and front wheel brakes of a powerful design are a standard fitting. These brakes are gentle in operation.

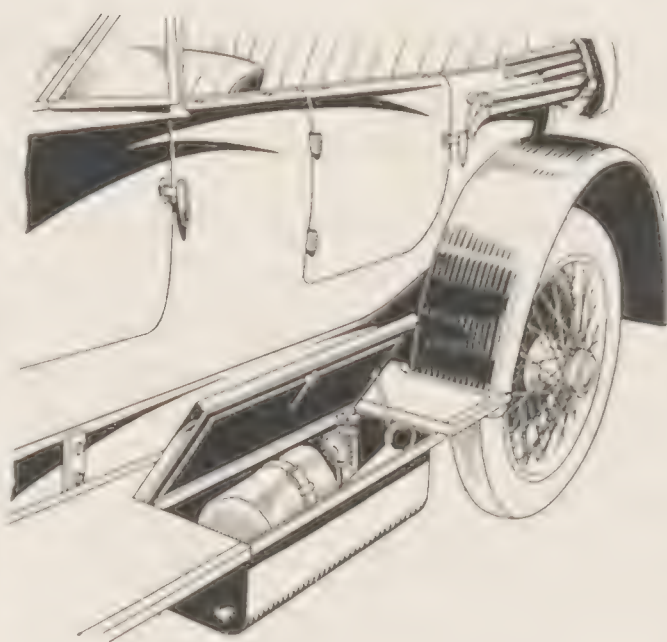


Brake and gear-change levers are centrally placed; the instrument board is completely equipped; the two-piece windscreen is adjustable as depicted; and the side curtains open with the doors.

is child's play, because the car steers so lightly and surely; because, moreover, of the knowledge that the enormous retarding power of the four-wheel brakes can be applied to the full without fear of the slightest deflection on dry road or wet, on the straight or at a bend.

Really to appreciate such a car on British roads it is necessary to take it to a long and unusually steep hill with a full load. Only then can the remarkable acceleration of the Alfa-Romeo be gauged. Kop Hill, the famous Chiltern test gradient, was climbed from a standing start during our test, with five passengers, in a few seconds over the minute.

In spite of the possession of many of the attributes of a racing machine, the car is notably gentle and easy to control. Gear changing is not often necessary, as, in spite of a top gear ratio of 4.5 to 1, the car will pick up well from a very slow speed; when the gear box has to be used, the change is found light, sim-



Tools are carried in a roomy locker on the near-side running board—ready for quick service. The body work is beautifully finished

ple and almost "foolproof." The operation of the clutch calls for little effort—a contributory factor in the ease of gear changing and a quality which is much appreciated when much touring driving is necessary.

In common with most Italian cars the Alfa-Romeo is constructed at Milan—the engineering finish of all parts is something more than excellent, and is at least an indication of the meticulous care expended upon those internal parts where extreme accuracy is vital. The six-cylinder engine, of a bore and stroke of 75 mm. by 110 mm., the clutch and gear-box are bolted together to form a single unit, with the Bosch electric starter contained within the clutch chamber. The cylinders themselves are a single casting with a detachable cylinder head.

A special form of lubrication is



The all-weather equipment, when not in use, is housed behind the back squab of the rear seats. Note the neat hood cover. The upholstery is good.

employed. Oil is forced through the crankshaft to all main bearings by gear-driven pump, with an oil-pressure gauge on fascia board.

The five-seater touring body, with hood of strong waterproof material and all-weather side curtains of efficient design, is all that could be desired for superbly comfortable.

With an overall length of 15 ft. and a wheelbase of 11 ft. 4 in., this touring car strikes the happy medium which gives ample space combined with a compact and readily controllable touring car. The price of the chassis is £625, or with the full five-seater touring body, £850. The sole concessionaires are Alfa-Romeo British Sales, Ltd., Baker Street, W.I.



An artistic picture of a truly charming car. The 20.9 h.p. Alfa Romeo — the charm of which lies in the confidence which is inspired by its extraordinary steadiness at high speeds — at picturesque Aldbury.

MOTORING WITH EVE

By MARTIN H. POTTER

From Little Dean to Monmouth, Tintern Abbey and Speech House

**We pay our devoirs to St. Anthony, and see good work
of Ancient Britons and the Order of Cistercians.**

EVE says that the beauty of Little Dean is only equalled by its modesty.

It is a tiny little village nestling on a hillside just within the confines of the Forest of Dean—a sleepy little place whose one long winding street has only the charm of simplicity, and gives no hint of the loveliness which the houses veil. Yet on both sides the forest in all its green glory comes down almost to the doors, and from the top of the village there is a view which I am tempted to say is unsurpassed in the whole of England.

Eve and I made Little Dean our headquarters for various motoring excursions, so, of course, we became well acquainted with its wonders; but the motorist coming from Gloucester and proceeding farther afield would be apt to pass through, deceived by the shrinking humility referred to by Eve.

I would exhort any motor-owner whose pleasure or business leads him that way to call a halt at the top of the village. He will find a stile on the right, and a five minutes' climb up the hill will bring its reward. If the panorama which greets him when he turns round does not meet with his approbation—well, he is a dainty man to please.

Down in the valley, 600 feet below, he will see, eleven miles away, Gloucester with its cathedral and neighbouring church of St. Nicholas standing out clearly on the plain. Behind that Cheltenham on the long line of the Cotswolds, and to the right Stroud. Farther to the left, Tewkesbury nestles in the hollow between the Cotswolds and Malvern Hills.

Then just below, in the immediate foreground, is the Dean Valley running right and left from Soudley to Mitcheldean, closed in by the lofty eminence May Hill, with its curiously shaped cluster of fir trees. The vale is encircled on both sides by forest. Below again,

at Newnham, the River Severn takes a wonderful horseshoe bend, and its course can be traced from Gloucester well below Chepstow down towards its mouth.

Eve and I drank in this view of the "Promised Land" early one morning when the air was crisp and clear, and then made for the garage, got out the car, and set forth to gain a closer acquaintanceship with some of its beauties.

The road we took was the one leading to Mitcheldean, but we had only covered something under a mile when, after taking a branch road, we came to a stop at the waterworks.

Incidentally, the motorist who insists on non-stop runs in the Forest of Dean will lose an enormous amount of its interest and picturesqueness. Every few miles there is some historical monument, some new wonder of scenery, just off the roadway.

There were two reasons for our particular halt; the one was St. Anthony's Well, and the other the British Camp, about half a mile away on the other side of the road.

The kindly dame at the waterworks cottage promised to keep an eye on the car, and directed us to the path through the wood which leads to the

well. Now, St. Anthony's Well, according to popular legend, has the marvellous faculty of granting any wish you may desire, so long as you conform to a prescribed formula. You must walk three times round the coping stones, and at the end of the third circle drop in a bent pin, invoke the aid of the good Saint, and make your wish.

It may be stated that Eve's desire was granted. She asked for fine weather, and during our stay in the Forest of Dean it was sunshine all the way, and never a drop of rain.

As we were leaving the well and passing through the forest to our next objective, raucous snortings came from the bracken, and in due course two ponderous "porkers" came crashing through the undergrowth.

We hailed them with delight. They were well in the picture, for it will be remembered that St. Anthony was the patron saint of swineherds—indeed, was originally a swineherd himself.

You come across pigs, quite unattended, in the very depths of the forest. The owners turn them out to get sustenance on their own, thus following primitive custom.

A half-mile tramp brought us to the British Camp, set on Welshbury Hill, near by Flaxley Abbey, which can be obtained from the summit of the camp.

They were wonderful military engineers, these ancient Britons. The Welshbury Camp covers a very large area, defended on the side nearest Flaxley by three successive deep trenches with corresponding ramparts, and, save for the fact that large trees have sprung up in the trenches, is in much about the same condition as it must have been when the builders made it nineteen hundred years ago. It was the nearest British outpost to the Roman Encampment at Gloucest.

We sat on the summit of the camp for a few



St. Anthony's Well in the Forest of Dean. Eve tested the wonderful virtues ascribed to it, with most satisfactory results.

minutes dreaming of those far-away days. Every inch of the ground must have been stained by good Roman and British blood, for eventually the British were pushed beyond the river Wye into Wales, and the men who built those entrenchments would not have left them without putting up a good

of course they returned to their old haunts when the Romans evacuated Britain. Indeed, the present inhabitants of the Forest of Dean are, perhaps, the most typically British in England. There is a marked difference in physical type between these westerners and the inhabitants of the lowlands.

Let me take this opportunity of placing on record that we found them a kindly people, anxious to please and most considerate to the stranger within their gates. We picked up the car again and, continuing our interrupted journey, reached Tintern, and taking a sharp turn to the left ran along the highlands through Staunton to Monmouth. Archaeologically, Monmouth is a somewhat disappointing town. Remembering its history, one expects much, but its ancient remains have nearly all disappeared.

Of the castle, birthplace of Henry V, there is but the mound and a few fragments of masonry, and of the Priory only the tower and a very trifling oriel window in the building which is now a school.

The window referred to is popularly but erroneously supposed to be the one which admitted light to the study of Geoffrey of Monmouth, the literary Church dignitary of the early thirteenth century who gave us the engrossing, "Story of the British Kings," that fascinating record which has more of romance than history in its composition.

The church proper has been rebuilt twice since the Priory decayed, but it contains several interesting relics of the monks.

The verger was kind enough to allow us to ascend the narrow winding steps of the ancient tower and in the belfry we saw bells which were brought from the battle of Agincourt. They were originally 13 in number, but their weight was so great that five of them were melted down. The old tower has had its strength increased since they were installed, and the operation will shortly have to be repeated.

From St. Mary's Church we made our way to the real architectural gem of Monmouth, the fortified gate, curiously placed in the centre of the bridge which spans the Monnow, the river from which the town derives its name. The gate dates from about the beginning of the thirteenth century. Its object was doubtless to serve as a barrier until toll duties were paid on merchandise coming into the town.

We left Monmouth by the Raglan Road, but turned off to the left along the one which leads to Trelleck, where we stopped for a few minutes to see the Druidical stones, yet another reminder of Ancient Britain before the Romans came. Then our path lay through delightful country until at last we came to Tintern.

Eve was just a trifle disappointed with the scenery at Tintern. Of course she admitted its wonderful beauty, but maintained that several other reaches of the Wye are yet more lovely. I agree with her, but then those other spots have not got Tintern's glorious Abbey, and no lover of old buildings would miss seeing what is generally considered the finest monastic ruin in Europe.

mental reconstruction of the beautiful building as it was before the roof fell in.

It was not easy to drag Eve away from the Abbey, but at last I achieved the seemingly impossible, and we set the car going along the romantic road which follows the Wye, conforming to its many windings, through miles and miles of its lovely vale—a road to treasure in one's memory for all time: steep tree-clad hills on either side, wonderful colouring all around, and always by one's side the swiftly running clear-water river dancing in the sunlight.

At Bigsweir the road crosses to the other bank close to the station, and still hugging the river "like wandering lovers," as Eve put it, runs right away to Monmouth. We left it, however, at Upper Redbrook, turning to the right for Newland and Coleford, and passing through the centre of the forest.

This last stretch of our journey runs through old, old woodland. All around us is primeval forest. We are in Ancient Britain almost as it was when the Romans found it two thousand years ago, and long, long before they came. The men and women we meet are descendants of that fighting race who built Welshbury and many other camps; and for long enough kept back the disciplined legions from overseas. You can trace their descent in their olive complexions and curling hair.

Here and there in small clearings you come across what are known as "one man mines," some of them disused, but others still being worked. Just a single shaft with its mound of slag beside it, and always the woodland comes right down to the edge. You catch just a glimpse as the car flashes by, and then the forest swallows it up again.

By and by we passed the Speech House, built in 1682, three years before the Merry Monarch appeared "before a Judge who is no respecter of persons." There is an engraved shield bearing his crown and initials carved on the building. The building is now a hotel, but the Court Room is still used for administering the special laws concerning mineral and timber rights held by the inhabitants of the Forest of Dean.

Eve wanted to inspect this home of justice, but I begged that it should be postponed. The law which appealed to me most at that moment was that of the wild. So we went homing to Little Dean—I wanted my dinner!



No lover of old buildings would miss seeing what is generally considered the finest monastic ruin in Europe.

RADIO AND THE CAR

By ROBERT W. BEARE (Author of *Modern Wireless*, etc.)

Some portable sets need no adaptation for home use; they are as perfect in their outdoor form as modern knowledge can make them. But the following advice will be acceptable to owners and constructors of slightly less refined and up-to-date apparatus

IT would be easy to compute the number of motorists who have not wireless sets; to reckon those who have, impossible. But the latter must aggregate very closely to the total number of car owners. And, of them, there must be many who entered into the enjoyment of radio during the summer *via* the portable set. The question now arises whether the same set is suitable for indoor reception, and, if not, whether—and how—it can be adapted.

The portable set is probably enclosed within a canvas, or leather-covered—or even painted—wooden case. In any event, it has doubtless suffered in its travels. It is no longer, if it ever was, a thing of beauty. It is, in fact, unwelcome in the drawing room. I suggest that the only adaptation necessary here is the purchase or construction of another case, which may be of any finish, any wood, indeed, and “period.” If the existing case is so designed that the set can be withdrawn from it, the new case may be almost identical except as to finish; otherwise it may be a mere casket, of any shape or size, into which the set may be dropped complete.

What mainly concerns me, however, is the improved results which can be obtained for home use by a few trifling alterations. Naturally I can only speak of sets in general, since I cannot know the type of receiver which each of you possesses. But we will assume that the set is a straightforward three-valver, with one high-frequency valve, a valve detector, and a stage of low-frequency amplification. Probably the valves are of the “06” type of dull emitter, the filaments of which are lighted by dry batteries. Well, first of all, scrap the batteries when they are exhausted and invest in a small accumulator—of which more anon.

Your primary desire at home will be to obtain general family enjoyment of the programme of your local broadcasting station on the loud speaker. The existing three-valve equipment will give results, of a kind. Let us see what we can do to improve matters.

You may, if you wish, retain the first two 06 valves. For the third valve, you *must* obtain one of the leading manufacturers’ small dull-emitter power valves, taking care that

the voltage required for filament lighting is the same as that of the other valves. Whether you use a two-, four- or six-volt accumulator, a power valve can be obtained to correspond. As an instance, and as the 06 valves need a 4-volt battery to light their filaments, you could use either the Marconi-Osram D.E.4, the Mullard D.F.A.2, or the B.T.-H. B4—and there are others. As these take only about a quarter ampere, the total current demand for the two 06’s and the power valve will still be under half an ampere, and quite a small accumulator will suffice to run the set. Remember, in purchasing such a battery, that its load should never exceed 10 per cent. of its rated capacity in ampere-hours. Thus, a 10 ampere-hour actual (20 a/h on ignition rating) battery will give a good margin of safety and would run the set for, say, four hours a day for a fortnight or more.

In order to obtain the utmost advantage from the power valve, which is specially designed to handle considerable energy without distortion, you must give its plate, or anode, a greater high-tension voltage than is needed by the other valves; and, as this will tend to

render the grid unduly positive, a battery—the grid bias battery—must be so connected as to neutralise this tendency.

Presuming that only one HT terminal and no grid bias terminal are already fitted, you must first disassemble the panel and add three more terminals as neatly as possible. Then remove the wire which connects the telephone positive terminal to the existing HT positive terminal at the latter end and attach it to the new “extra HT” terminal. To apply the increased voltage, connect the negative socket of an additional h.t. battery to the positive socket of the old one. Any voltage required may then be tapped off from the new battery. About 120 volts will usually suffice.

And now as to grid bias. Trace out the connections behind the panel and you will find that one end of the transformer secondary winding is connected to the shank of the grid valve socket, and the other to LT—. Disconnect the latter and join the other end of the secondary to one of the remaining two terminals which you have just fitted, the last one being connected to LT—. You can now externally connect a grid-bias battery, which should be provided with two plug sockets every 1½ volts up to a total of 9 or 15 volts across the two terminals. The negative end of the battery must go to that terminal to which the end of the secondary winding is connected. Perhaps I should explain that the secondary terminals of the transformer are those marked IS and OS—meaning inside secondary and outside secondary.

Having made these alterations, you will have a set that will give, if necessary, sufficient volume for a moonlight dance on the lawn, and more than sufficient volume for indoor reception. If the volume is too great, reduce it by detuning the aerial condenser—*not* reduce the brightness of the filaments. And remember that the whole secret of purity is the very moderate use of reaction and the accurate adjustment of h.t. and grid potentials.

Finally, if you are less than ten miles from a broadcasting station, it is possible that by turning out the light of the first valve and re-tuning the high-frequency condenser, even better results may be obtained.



With all the Amplion characteristics—sensitivity, volume of sound, clarity, tone and appearance—the “New” Junior de Luxe model, priced at £3 5s., is real radio value. The trumpet is of oak panels united by a series of metal ribs. It may be obtained in mahogany for 3s. 6d. extra.

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The factor governing the power of your car

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An engine rated at 12 h.p. is not confined by any mechanical limitations to this power but may be capable of developing 40 h.p. if the propellant force is adequate to develop the necessary engine revolutions. National Benzole Mixture develops

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September, 1925

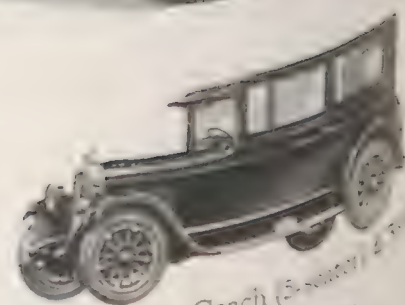
The wonderful new Chrysler Four



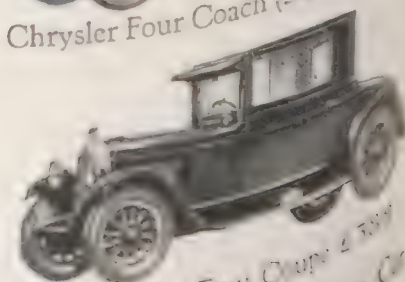
A great new four-cylinder car—as amazing in its class as the famous Chrysler Six. The first car at its price with Hydraulic Four-wheel Brakes.

This car will swing along the road at nearly 60 miles an hour. It will take bends without a trace of sidesway. It will run smoothly over rough roads and cobblestones. It leaps forward on top gear—from 5 to 25 miles an hour in 8 seconds; its acceleration is nothing short of a marvel for a four-cylinder engine. It has Chrysler - Lockheed Hydraulic Four-wheel Brakes—which are always perfectly compensated and

require no attention. Its petrol consumption is 30 miles to the gallon. It is unusually comfortable, exceedingly handsome, extraordinarily strong—an extraordinary car—unrivalled, and not likely to be rivalled, in any single point of performance by any car on the road in its price class. Everyone interested in cars of any type or price should write for the booklet describing the new Chrysler Four in full detail.



Chrysler Four Coach (5-seater)



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CHRYSLER FOUR

MATTERS OF FEMININE MOMENT

The trial trip of autumn's motoring modes

IN September we are still people of leisure. We have recovered from the fatigues of a London season, and if we are wise, the fresh air of long days in the car, on the moors, or the golf course will have added youth, even plus a little sunburn or freckles to our complexion. Moreover, a really faint powdering of tan or freckles are by no means unfashionable at the moment, and the Parisian is by no means averse

that seized old and young alike a few seasons back, has modified itself to such a degree that most women to-day are realising that even from the point of view of comfort alone, some sort of corset is essential. Our enthusiasm for rubber reducing corsets was rather sapped in the hot weather, but we may not need actual reduction, probably only a corset that affords us support for producing the slim line. The boning



A very smart rolles shape crown in suede, brim covered with fur. The brim at back can be turned down to protect the head in bad weather.



FOR THE CAR

In the Women's Motor Coat Section of Selfridges there is always an extremely wide selection of leather coats displayed. The model pictured above combines a very fashionable note with the complete protection and comfort required for the car. It is cut from exceptionally soft skins with a smart low waist belt. The fur collar, cuffs and generous band at foot are of the new sand shade opossum. Lined throughout with a fine quality check tweed. The price is very moderate.

breakingly dull if they do not harmonise with one's personality. Probably nothing is very urgent about our wardrobe until we return to town next month in time for the motor show, so the best way to begin our taking stock is to begin on ourselves with such intimate affairs as corsets and complexions, for it is useless to consider frocks until these matters are settled.

The sudden reaction from all corsets



An attractive suede hat, finished with corded ribbon to tone; a new style of turn-up back, and trimmed at side with hand-painted quills.

may need to be sturdier in front, or at the back, or a little extra length perhaps will overcome the difficulty. Too few women realise the value of a brassiere, even if they are slim. The French woman knows better. Invariably she wears one—but she wears it next to her skin, and therein lies the secret of her success. It does



Here is a smart hat in beige suede and trimmed with small leather flowers to match, which are absolutely weather-proof.



Plain yet very neat, this hat is of fine suede, and is trimmed round the brim and edging with silk ribbon.

away with the ugly "stuffed" look of a brassiere worn over other under-clothing, and there is no question of having to fasten it down, or its riding up and so forth. Worn in this way a light canvas brassiere will be sufficient even for full figures. The golden rule in choosing a corset is to see that it is boned efficiently in the places where your figure needs it, but have no unnecessary bones, and try the corset sitting down as well as standing up.

While we are thus busy at the mirror and our dressing-table, it is very natural that our next step should be to think over powders, perfumes, face creams, and lotions. These have evolved to such a fine art now that our bath salts, powders, brilliantines, and even dentrifices, are made perfumed with our chosen flower essence. If we would be really fastidious in these details then our bath will demand bath crystals, or tablets, bath soap, and dusting powder, eau de toilette, and shampoo powders to match. For shingled hair, after a long day's run in the car, a little brilliantine may wisely be tucked into the corner of the suitcase, and soon takes away from that tired, covered-with-a-hat look that is such a nuisance with fine, soft hair. A greasy face cream, and an eau de toilette are also of first importance, as if the road has been dusty or hot



A useful hat composed of suede or waterproof satin, underlined a contrasting shade. The adjustable band forms trimming, and when occasion demands can be utilised as a chin strap. The back of the cosy crown can be drawn in by elastic, while a soft ninon veil finishes the model. All five hats depicted on this and the previous page are by Dunhills, of Euston Road.

there is nothing more fatal than to wash one's face immediately on arriving. The cream is, of course, used first with a little cotton wool or a soft rag, to remove the dust, and a little rose water is refreshing if the face is just dabbed with it at the temples, or behind the ears. In purchasing a face powder for holiday purposes it may well be wise to choose a slightly warmer tinge than one would use in London, and, of course, such colours as *clair de lune* or lemon are quite out of place, even for evening. The ideal make-up in the country is the one that convinces one's friends of its non-existence.

In the event, by the way, of wanting to shampoo one's hair, during a stay in some out of the way village that knows not shampoo powders, a most admirable substitute is three pennyworth of green soft soap from the village chemist or stores. If this is melted down by means of a little boiling water, plus a few drops of eau de cologne or eau de toilette, it will make one's hair not only bright and soft, but more than usually disposed towards a natural waviness.

The trend in autumn frocks is not startling, and despite all prophecies to the contrary, our general outline is still slim and straight. We have, however,

slightly longer skirts, which to the majority are becoming; and we have grown tired at last of the variety of small pleats. Fullness is achieved by a large inverted pleat in the front of a straight little coat frock, or by means of flat box pleats, heavily pressed.

The strikingly beautiful and extensive range of colours that have been specially produced by the Bradford Dyers' Association co-operating and experimenting with Mr. Reville in such a wide range of materials as those shown at the Paris Exhibition, should certainly dispel all fear in the future of Great Britain's ability to produce the delicacy and originality of colours, that must always remain the first consideration of the leading dress and fashion creators.

Autumn will see ranges of the exquisite Queen's blues, imperial navy, caladon, cedrine, golden browns, antique meerschams, petunias, royal onyx, etc., in all-wool fabrics, and mixtures of wool and artificial silk, the new fabric that certainly will have far-reaching effects upon the world of dress, as the designs and colourings to be obtained by various combinations of this new discovery with both wool and cotton are novel, practical, extremely attractive, and can be sold at prices within the reach of all purses.

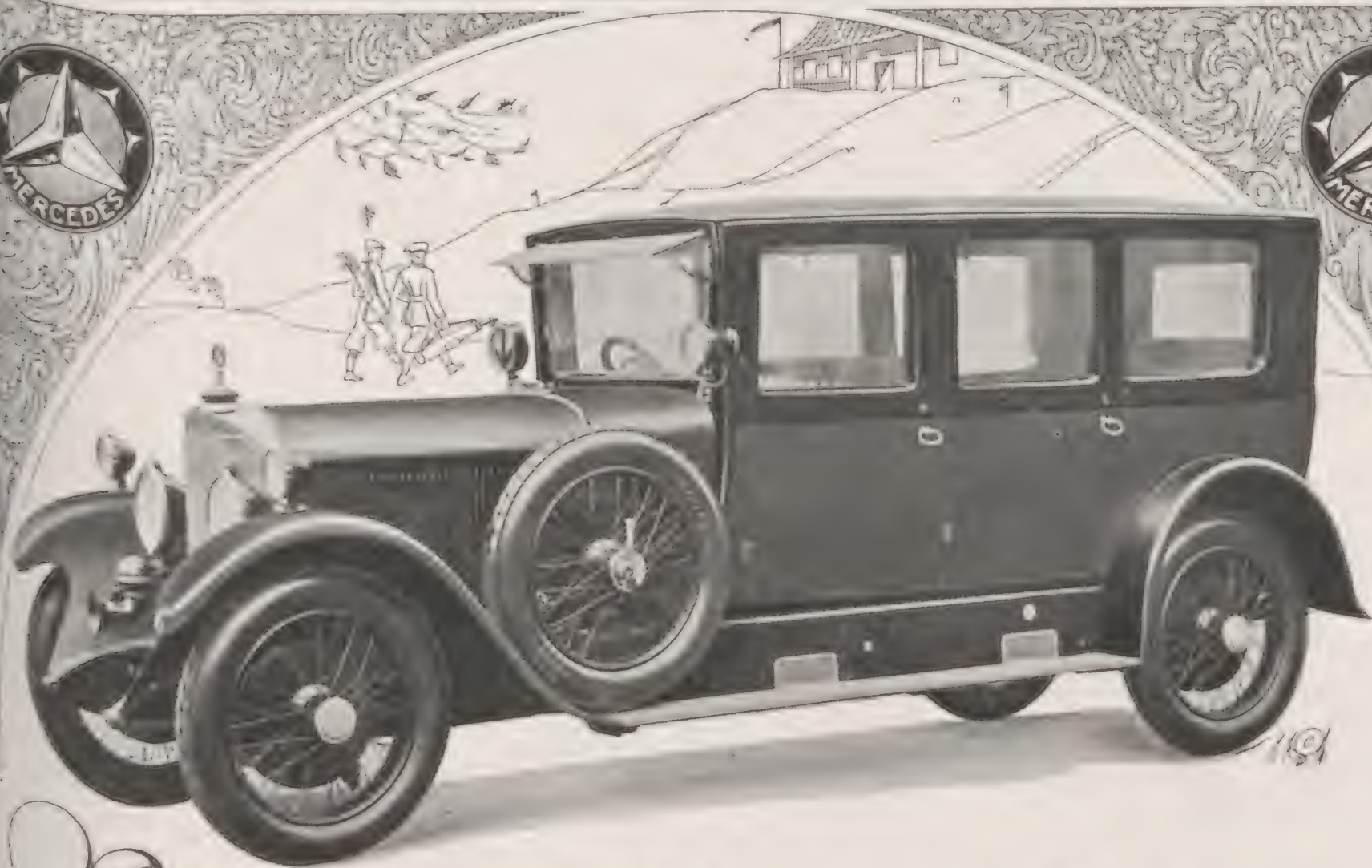


A beautiful new Reville motoring coat of beaver. The cross-like design gives it added effect.



A very handsome new Reville tail motoring wrap, used equally well for town and country.

24/100 h.p. MERCÉDÈS



BEAUTY adds GRACE to VIRTUE... Virgil

The 24/100 h.p. Mercédès is definitely a car of which one may truthfully say its Beauty adds Grace to Virtue. But the buyer of real car excellence is ever more concerned with car virtues than beauty. Since the birth of automobiles the MERCÉDÈS has been pre-eminently a leader—and acknowledged as such throughout the world. The present models of this famous make, equipped with a SUPER-CHARGER, are so superior in road performance that only an actual run can adequately convey their superiority. Thus, for example, does *The Autocar* sum up: "This Mercédès production marks an epoch in automobile history. From a normally docile car, it becomes a greyhound." Such comment from so reserved an authority demands no amplification. May we give you a trial run? It will place you under no obligation.

BRIEF SPECIFICATION

Six-cylinder overhead valve engine, 23-8 h.p. R.A.C. rating, Mercédès patent super-charger; unit construction. Dry plate multiple disc clutch. Pedal applied four-wheel brakes. Independent (internal) hand brake on rear wheels. Four-speed gearbox with helical bevel final drive. Semi-elliptical front springs; cantilever rear. Complete equipment, including mechanical tyre pump, etc., etc. This specification also applies to the 33/140 h.p. Mercédès except that the engine is 94 m/m by 150 m/m, i.e., 3.29 h.p. on R.A.C. rating.

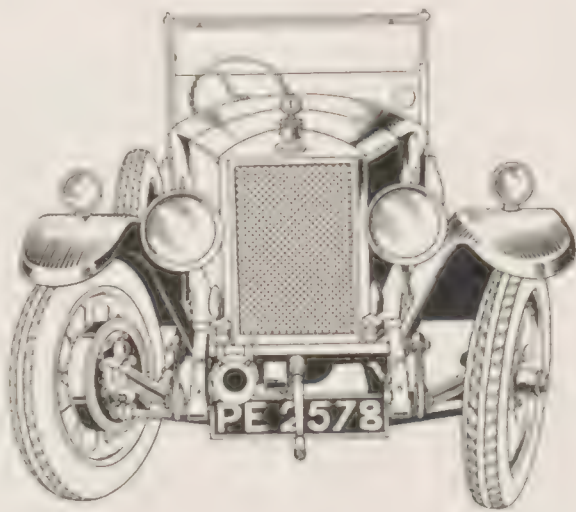
BRITISH MERCÉDÈS Ltd., Mercédès House, 127-130 Long Acre, London, W.C.2

THE 17·7 INVICTA—A CAR EXTRAORDINARY!

A car, the performance of which greatly exceeds the average. A truly extraordinary vehicle!

THAT a car with a normal ratio of top speed capable of exceeding 60 miles on the level, should yet be able to climb such hills as Brooklands test hill and Netherhall Gardens on the same top gear is almost unbelievable. It was with very considerable doubts that we set out to test the 17·7 h.p. Invicta. Yet the ascent of the Brooklands test hill alone, with a maximum gradient of 1 in 4, showed that the maker's claims were justified.

Its extraordinary top-gear climbing ability, and the flexibility which permits it to run steadily on the same gear at less than four miles an hour,



The front view presents a very striking appearance. Efficient front wheel brakes are fitted, with shock absorbers at both front and rear. Note the electric hooter well to the fore!



Front seats are adjustable to suit individual passenger's comfort. Note the short yet powerful central hand brake lever. The gear change lever is right hand.

or in approximately half a minute of acceleration to exceed 60 miles an hour, are by no means the only claims to attention possessed by the Invicta.

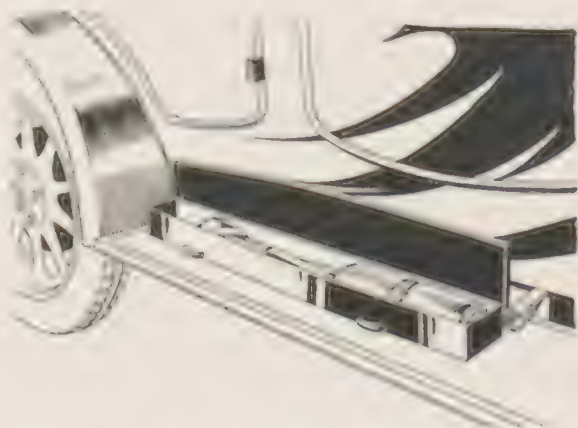
For one thing, there is no single car on the market, at any price, with so complete an equipment, every item of which is useful rather than merely luxurious, and of the finest possible quality. For another, there are few cars which are so exactly tested and "run in" before delivery. And yet this wonderful six-cylinder chassis costs only £595—or £15 more for the special saloon model. It is not listed as a complete car. The reason is worthy of quotation; it is indicative of the policy which has dictated the design of every part:

"Standard types of coachwork will

not be supplied with Invicta chassis," says the catalogue, "as compromise bodies intended to suit all customers will probably fail to please any."

There are several points of unusual refinement for so moderately priced a car in the chassis specification, but nothing to account for its abnormally efficient performance. The secret lies in a multitude of details—in the use of the finest material for every separate part, in accuracy of a very high order in every operation, and in outstandingly clever designing.

The engine is a six-cylinder monoblock of 69 mm. bore and 120 mm. stroke, giving a cubic capacity of 2,603 c.c., and a taxation rating of 17·7. The crankshaft runs in four bearings, and is dynamically balanced.



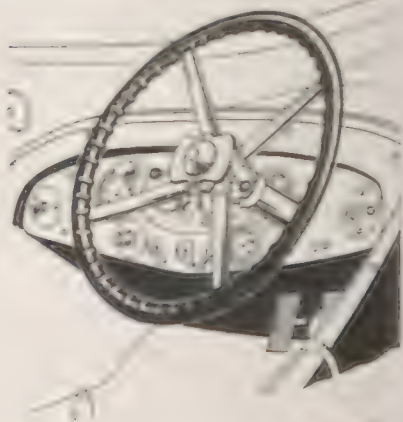
Tools and spares are carried in spacious lockers on the running boards. When not in use the lockers slide beneath the body, leaving the running boards clear.

Overhead valves are operated by tubular push rods, and the connecting rods and combustion chambers are machined—the effect in the latter case being almost to eliminate any tendency to "pink" through pre-ignition.

Oil is forced under pressure to the main bearings, cam shaft bearings, and big ends, while a low-pressure supply is provided for the valve gear.

The temperature of the cooling water, which is pump circulated, is controlled by a thermostat. Carburation is by two Solex carburetters, connected by a balance pipe to compensate for any small lack of synchronisation; a separate starting carburetter is fitted.

A very large and light single plate dry clutch contributes to the ease of gear changing—on the infrequent occasions



Throttle and ignition levers are mounted on the steering wheel, with the button which operates the electric hooter in the centre. The instrument board is fully equipped

when it is necessary. Another feature is the close relationship between the three principal ratios of the four-speed gearbox. These are 4·5, 6·1, and 8·7, the bottom speed being 13 to 1, and the third speed pinions are specially ground for silence. Steering is by Marleson gear; braking by Rubery four-wheel system.

The Invicta car represents remarkable value in every respect. It stands out as to performance; and as to durability the guarantee is for 20,000 miles extending even unto the second and third owner. The makers are Invicta Cars, The Fairmile, Cobham, Surrey, and the concessionaires Gordon & Land, Ltd., 28, South Molton Street, W.1.



Here we depict the Invicta car with the pleasant background of St. Mary's, Bramber. In the matter of performance, we found this vehicle capable of holding its own with the best of its class. Its efficiency furnished the foregoing reflection, and it will be noted the wet road provides another.

A MOTOR TOUR THROUGH THE ARDENNES

By CLIVE HOLLAND

Few continental tours provide such a variety of interest as an extended trip in the Valley of the Meuse, and our contributor gives a delightful description of this delectable country

THE Ardennes and the newly acquired Belgian territory, formerly the Grand Duchy of Luxembourg is, perhaps on account of its situation on the south-eastern frontier of Belgium, a somewhat neglected holiday ground for English motorists. It can nevertheless be recommended to those of the more enterprising type, for whom a considerable percentage of fairly good rather than excellent roads is not a deterrent. The pleasant city of Liège, with its good hotels, bustling life and air of picturesqueness wedded to commerce, provides an excellent jumping off place for the tour.

The Meuse once crossed by one or other of the fine bridges, our road leads up the picturesque Valley of the Vesdre, the rocks of which consist of a bluish limestone used in the district for building purposes. Chaudfontaine is speedily reached. It is a small but beautifully situated holiday resort much visited during the summer season from all parts of eastern Belgium. On an island in the river, reached by a suspension bridge, is the hot thermal spring, 104° Fahrenheit, used for the baths, attached to which is a small casino. Above the town stands the Castle of la Rochette, and near it on the heights a much-frequented pilgrimage church of Chèvremont. The road onwards now rises rapidly, and at Trooz it is over 300 ft. above sea-level. Perched high on the rocks to the right is the old turretted castle which gave its name to the townlet. Right on to Pepinster one passes through delightful country with many châteaux, among them Fraipont-Bas and Colonheid, perched amid the deep rocks and the woods of larch and spruce crowning many of the hills, through fissures in which, almost on every hand, trickle streams to join the quickly-flowing Vesdre.

One can hardly realise amid such scenery, indeed, that one is in the midst of an industrial district largely concerned with the manufacture of arms. Herstal was the birthplace of Pepin of Herstal, the chief steward of the palace, and during his life practically the Regent of the great Frankish Empire.

There is a good road into Verviers, an important town with just over 50,000 inhabitants, where cloth-making has flourished since the eighteenth cen-

tury. The monument in the Place du Martyr was raised in 1880 to a citizen named Chapuis, who was executed in 1794 by the Prince-Bishop of Liège for the unforgivable crime of celebrating civil marriages. The principal church is St. Remacle, which is worth seeing because of its excellent stained glass. It was at the Hôtel de Chemin de Fer that Napoleon III., in 1870, then a prisoner after Sedan, passed the night when on his journey to Wilhelmshöhe.

It is worth going on to Limbourg, a quiet place some 900 ft. above sea-level, which is joined to Dolhain, a modern town picturesquely situated in the Valley of the Vesdre, occupying the site of the lower part of the ancient capital of the Duchy of Limbourg, often pillaged by the Dutch, Spaniards and the French, and finally entirely destroyed by Louis XIV. in 1675. It is worth while to leave one's car and go on to the old Esplanade, from which there is a wonderful view.

From Limbourg one goes along the main road for a few kilometres to the Barrage de la Gileppe, which is well worth seeing. This Barrage is a triumph of modern engineering, and was built in 1867 to 1878 for the purpose of forming a reservoir of pure soft water for the use of the cloth factories of

Verviers. The aqueduct which takes the water to the latter town is 5½ miles long. On the top of the embankment stands an enormous lion, 43 ft. in height, overlooking the Barrage and the lower portion of the valley which its great wall cuts across. From Gileppe one has the choice of running on southward to Jalhay, and then some adventurous cross-country motoring to Spa, and hence to Spa, or of going from Jalhay to Bolinpoint, Baraque Michel, and then three kilometres on along the main road to Malmedy, an old town overshadowed by steep hills, picturesquely situated on the Warche, which was once the chief town of a small independent territory, under the Benedictine Abbey of Stavelot-Malmedy, taken by Prussia in 1815. It is now Belgian territory once more, as it was ceded to Belgium in 1919. A good road takes one from Malmedy to Sap, which is only some five-and-twenty kilometres distant.

Spa is a delightful place in the season. The Belgians have tried to make it a second Aix-les-Bains, and to some extent they have succeeded. It is crowded during the summer months, and in addition to the "cure," which some considerable percentage of its visitors take, it offers the attractions of a delightful situation, good tennis, golf, racing, and a casino where one can play boule and baccarat and listen to some of the finest music in Belgium.

One's best plan is to run back from Spa towards Malmedy as far as the forking of the main road near Francorchamps, leading to Stavelot, a pretty little town on the right bank of the Ambleve. The ancient parish church contains the shrine of St. Remacle, thirteenth century. There is a delightful fountain in the Market Square, on which are the attendant wolves of the saint. From Stavelot one runs southward for a distance of about five kilometres, and then takes the southward road to Wanze, where there is an enormous boulder known as Le Faux de Diable, and on to Grand Hallux in the Valley of the Salm, thence to Vielsam, prettily situated on a hill at the junction of two or three delightful little valleys. As Salm Ghatteau, with its ruined castle, one continues southward for five kilometres, and then



A frequent scene on the banks of the Meuse



The Barrage de la Gileppe, built in 1867 for the purpose of forming a reservoir of pure soft water for the use of the cloth factories of Verviers.



Verviers, full of old world charm, is a town offering much of interest to the visitor. It lies about midway between Gileppe and Jalhay.



Little can be said of world-famous Spa that is not already known. It is the most delightful of places during the season, the "cure," of course, being the main attraction. Our picture gives an excellent panoramic view of the town.



A happy study of barge life on the River Sambre, near Charleroi. Note the dangerously narrow plank communication between bank and barge.



A typical scene in the Ducky of Luxembourg. Farm produce on the way to the market—by dog cart, often loaded to an unbelievable weight.

turns sharply to the right, taking the main road for Houffalize, where we have reached the Ardennes Plateau. Houffalize is the chief town of the upper part of the Ourthe, beautifully situated, with a ruined castle, and among picturesque surroundings.

The road now runs still southward, with a slight westward inclination, through delightful scenery *via* Noville, Foy and Luxeru-Neffe to Bastogne, known already as Paris-en-Ardenne, with a fifteenth century church containing interesting ancient mural paintings, with a figure of St. Christopher dating from 1520. The road now lies eastward to Wiltz, in the Grand Duchy of Luxembourg. After about fifteen kilometres with several steep ascents and descents there is a sharp turn north-eastward to take one into Wiltz itself, which is picturesquely situated on a plateau and surrounded by undulating country of much charm. The high town preserves all its old-world and charming characteristics—ancient houses and rough and narrow paved streets. At the chief hotel in the place the cuisine is of the highest character, and certainly Wiltz is a place in which to spend a few hours pleasantly.

As you climb on leaving the town you will pass a street fountain with a fine old Renaissance figure, probably that of one of the lesser saints, surmounted by a cross. The road by which one reaches Diekirch runs south-eastward from Wiltz through Heiderscheid, a prettily situated village reached by a steep ascent, but the surface of the road is generally excellent. The mountain slopes up on the left and trees border the road on the right, and here and there are magnificent avenues of firs, and amid the fields are many fruit trees, and beautiful mountain ashes, the berries of which match the red roads along which one travels.

There are several steep hills to encounter both descending and ascending before reaching Ettelbruck. The name means Attila's Bridge and it is a long rambling place and an important railway junction. The church is surprisingly old and worn from the outside, but has a wonderfully beautiful interior.

There is a good main road to Diekirch running north-eastward from Ettelbruck through Ingeldorf. Diekirch lies on the left bank of the Valley of the Sauer, protected by an encircling amphitheatre of heights. The most curious thing about the town is perhaps the very distinct border-line that has been kept between the old and the new. The ancient streets, with their huddle of houses, narrow culs-de-sac and tortuous byways are

gathered together in the centre of the town, while on every hand the new spreads out with wider streets, modern houses, and ample spaces. One should certainly see the ancient church of St. Laurens, the nave on the northern side of which, on the left, dates from the days of Charlemagne in the ninth century. The greater portion of the building as it remains to-day is, however, sixteenth century. The little town has its chief charm from the fact that it is in delightful country.

OUR RADIO SECTION.

Page 31.

WE do not feel that any apology or explanation is necessary for the departure that is initiated in this issue of THE MOTOR OWNER—the inclusion of wireless information. Every, or very nearly every, car owner is interested in or entertained by wireless. Many are technical experts; others are endeavouring to become so—and still others are just listeners. We shall endeavour to cater for them all, and with this end in view have secured the services of Mr. Robert W. Beare, whose experience specially fits him for the task, to conduct this section.

We are running an Information Bureau on wireless matters, which service—in the same way as that for motoring queries—is entirely free to our readers.

One may either go straight on from Diekirch to Luxembourg or reach the latter by a triangular route through pretty country and visit Echternach, well worth seeing and still mediæval in character.

The road from Diekirch to Luxembourg, the capital of the Duchy, lies through picturesque country, *via* Ingeldorf, where there are remains of a Roman bridge; Nieder Schiere, to Moesdorf, with pretty views of the river Alzette; Rollingen; and Lorentzweiler. The surface of the road is generally good, but there are steep ascents and descents with some sharp turnings necessitating care on the part of the driver.

Luxembourg, more than a thousand feet above sea-level, and once a fortress of the German Confederation, is the capital of the Grand Duchy, with a population of approximately 25,000. The town is remarkably and picturesquely situated on a bluff, which on three sides descends in almost precipitous cliffs to the Valley of the Alzette and the Petrusse, 200 feet below, with industrial suburbs, originally of the old town, in the gorge of

the Alzette. The Cathedral of Notre Dame, built in the sixteenth century, has a fine Renaissance doorway dating from 1621; and other notable features are the beautiful Renaissance roof-loft, the cenotaph of the blind King John of Bohemia, killed at the Battle of Crecy in 1346, and the treasury, containing many objects of interest. High above the town, reached by the Rue Saint Michel, stands the Roche du Bock, crowned by a ruined tower, which is the last vestige of the ancient castle of the Counts of Luxembourg, with magnificent views of the Alzette and its valley. There are many quaint corners in this old-world town worth exploring, and the public park on the western side is charmingly laid out on the ground formerly occupied by the old ramparts. The Villa Luvigny, a pleasant café-restaurant with a large garden and splendid views, is worth visiting.

One leaves Luxembourg to the west for Arlon along a fine but hilly road, passing through Windhof and Wolberg. Arlon, which is the capital of the Belgian province of Luxembourg, with some 12,000 inhabitants, is picturesquely situated on the slope of a hill. The Germans, early in August, 1914, pillaged and destroyed a considerable portion of the town, ostensibly as reprisals for the cutting of telephone wires. Neufchâteau, through delightful country, is our next objective, along a hilly but picturesque road. One runs down southward to Florenville and then to Bouillon, which is certainly worth seeing. It was formerly the capital of an independent Duchy, held by Godfrey de Bouillon, who sold it in 1095 to the Bishop of Liège. The famous castle dates back to the remotest times, but the present building is chiefly fifteenth-century work. The towers, staircase, a twelfth-century bell, Godfrey's armchair, the dungeons, torture chamber, pillory, etc., are worth seeing.

One from Bouillon goes northward to Paliseul and Maissin, and then to the cross-roads near Les Baroques. The one to the left is taken and there is a good road to Han and Rochefort. At Han one is in the midst of wild and beautiful scenery, and no one should miss seeing the world-famous grottoes. Rochefort, the ancient capital of the Duchy of Luxembourg, is most beautifully situated amidst scenery which is unrivalled in Belgium, and has been described as the "Belgian Switzerland." There is a good road from Rochefort to Dinant, and then the return journey may be pleasantly made along the western front of Belgium to the coast, *via* Namur, Charleroi, Mons, Condé, Tournai, Courtrai, Menin, Ypres, and Dixmude, Furnes to Ostend.



“MECHANICAL HAPPINESS.”

You do not need to be a highly qualified engineer to appreciate the condition of things under the bonnet. You can tell in an instant whether the engine is fractious and unwilling or whether it is thoroughly contented with its job. “Mechanical happiness”—every part turning its duty into a pleasure—makes all the difference between delightful motoring and—just motoring. That is why K.L.G.’s are so immensely popular. They put every engine on its best behaviour. They lead to greater power and enhanced economy, and they ensure an absolute freedom from plug troubles. They are an essential ingredient to enjoyable road travel. Every competition proves their worth. Why not install a set in your engine and prove their value to yourself?

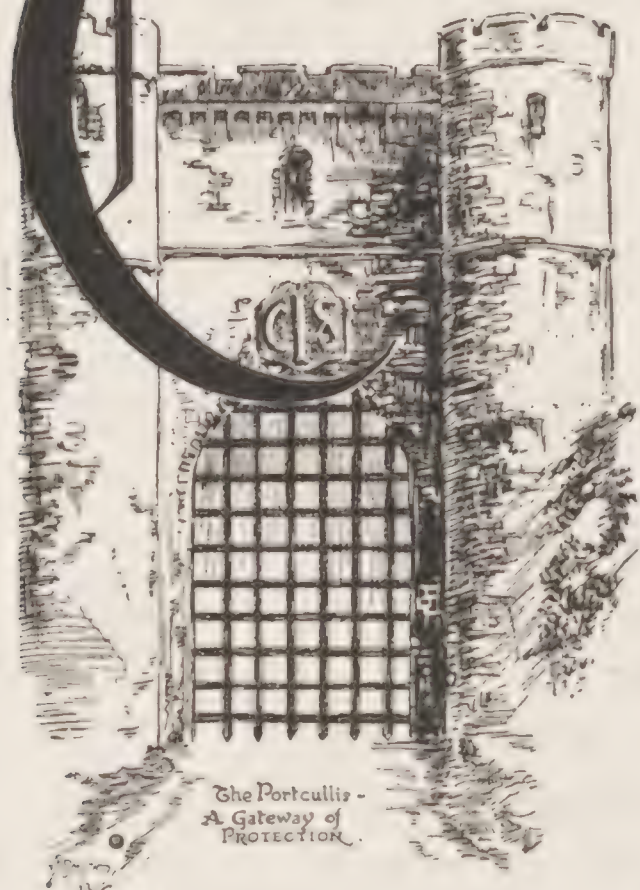
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TO-DAY the need of security is greater than ever.

The ever increasing popularity of motoring naturally increases the proportion of risk, and the Car owner is—from sheer common sense—bound to Cover his Car.

J Many Motor Insurance Policies are available, but the discerning Motorist will readily realise that in choosing a Cover it will pay to COMPARE before deciding, so that the best advantages, with sound security, are obtained.

J The C.I.S. POLICY is planned to give every possible Cover and Benefit, and at the same time to keep down premium charges.

This table of comparison is worthy of your careful consideration.

May we send you a Prospectus and Specimen Policy to enable you to compare the conditions, rates, and other vital points with those of your existing Policy?

Comparative Premiums Charged by the C.I.S. and the Tariff Companies for the usual comprehensive Cover in respect of Private Cars.

Treasury Rating not exceeding	Value including Accessories not exceeding	C. I. S. PREMIUMS.	Tariff Companies'
11'9 h.p.	£250	£8 0 0	£12 15 0
(seating not more than 4 persons, including driver)			
11'9 h.p.	£250	£9 17 3	£12 15 0
(seating more than 4 persons)			
13'9 h.p.	£400	£11 5 0	£15 17 6
20 h.p.	£400	£13 7 6	£17 7 6
30 h.p.	£500	£16 11 3	£20 8 9

N.B.—Irish risks are rated specially, and are subject to certain restrictions.

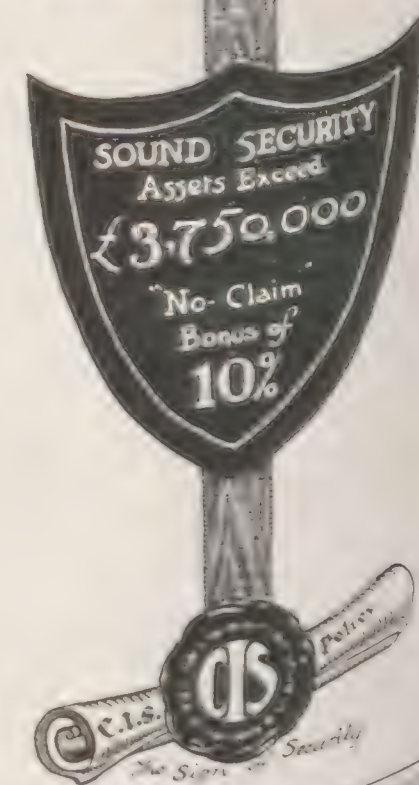
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JOINT MOTOR TOURS

By LEONARD HENSLowe

Who gives in the following lines a delightful description of a thousand miles' tour from Milan to Rome and back again by a party of ten people

MOTOR touring on the Continent of Europe can be one of the most enjoyable of holidays, although the business side of it is often thought intricate for some intrepid traveller.

Now I have made a motor tour through Italy which was in every way ideal. Firstly, it was very reasonable in cost, as our car was a large motor Pullman holding ten people, and thus the cost, being contributed to by so many, was proportionately cheaper than if we had been a party of half that number. Next, the business side of motor touring, by which I mean the planning of the route, choosing hotels, paying the bills, buying petrol, oil, tyres, garaging the car—all these things were planned for us in advance, and settled by a master hand so adequately that we had but to pay our cheque, not a large one, and the rest was sheer enjoyment.

We made our way by train to Milan, and there started this most excellent tour through Italy, the route being planned by Mr. Graham Lyon. Our motor Pullman was the last word in luxury travelling, having ten most comfortable revolving armchairs, with a table before each on which was stretched a glass-covered map of the route.

The route of the tour was Milan, Brescia, Verona, Vicenza, Padua, Venice, Bologna, Florence, Perugia, Rome, and then back by another route, so that no road was covered twice. In all, we motored over a thousand miles.

The first day was occupied in seeing Milan, its cathedral and museums, and on the second we left for Brescia, a morning's ride only, which gave us the afternoon for seeing this quaint old town, quite off the beaten track, and unvisited by the ordinary train travellers.

The following day we proceeded to Verona, Padua, and Venice. In Verona the principal interest is in the arena, well preserved, and used to great account to the present

time, and we inspected the dungeons where the man-eating lions were kept centuries ago, and those from which the gladiators emerged who fought for the amusement of the people. How the world turns!

Padua is famed for its beautiful Byzantine cathedral, and when I went in the monks were chanting vespers. I always think that to get the atmosphere of a cathedral it is best to go when a service is in progress. After all, a cathedral is not a museum, but a place of worship, and music is an integral part of worship.

You do not need to be told that no motor car has ever set wheel in Venice, and we left ours at San Giuliano and proceeded to the City of Canals by boat. Venice! Is there another city in the world that has arrested one's imagination as much before visiting, and retains its hold on realisation? The commercial capital of the Old World, and at the height of its splendour in the Middle Ages, Venice is unique and adorable; its architecture is wonderful, its mediævalism its charm; and you can look a century ahead and still see Venice without vehicles, with its alleys for streets, its stone-flagged courts, dustless and clean; its Gothic windows, grilled and mysterious; its glass-making and ironwork, and its bridges. There are 378 of

these, mostly beautiful structures of stone.

The population of Venice to-day is 148,500, three-fourths of whom are in the poorest circumstances. Yet if you stroll along the wonderful Square of St. Mark and view some of the superb architecture, museums, churches, and even the antique shops, you would consider it a city of wealth; but, in truth, its wealth is in its buildings, and it lives upon its past.

One of the little things that strikes the visitor is the sombre black of all the gondolas. In the Middle Ages, when luxury was at its height and fabulous sums were spent in the decoration of the gondolas, when Venice was, in fact, going the pace, the Doge issued an edict, in order to arrest inordinate extravagance and vieing one with the other in this outer show, that all gondolas should henceforth be painted black and unadorned.

From Venice we went to Bologna, one of the oldest towns in Italy, famous for its university, which flourished especially in the eleventh and thirteenth centuries. The town is at the foot of the Apennines. It possesses a leaning tower; in fact, more than one of its many towers is out of the perpendicular.

From the point of view of country scenery, the crossing of the Apennines was about the most beautiful part of the journey. The road wound up the mountain sides, and we lunched out of doors at Montepiano, a point near the summit of the pass, about 3,000 ft. up. The run down the southern side was most enjoyable, through Prato and Campi to Florence.

Firenze, which is its real name, and I don't know by what right we dare to call it by any other, was the ancient capital of Tuscany. Its streets are adorned with magnificent statuary, its bridges are marvels of beauty, while its museums and galleries are resplendent with some of the world's greatest treasures.



The picturesque Ponte Vecchio, Florence.

The journey over the mountains to Siena was one of the best of the tour, the views superb, and the road, though winding, very good. We ascended to 2,000 ft., and then descended gradually to Siena, a peculiar little town on a hill.

The cathedral at Siena, which was begun in 1229, is the finest ecclesiastical building, internally, I have ever seen, and I could have spent days examining its art and its treasures. The busts of the Popes, the wonderful pulpit, in white marble with beautiful reliefs from the New Testament, are exquisite. The marble pavements are laid out in wonderful scenes by leading artists, but these works of art are covered over with wood flooring for the greater part of the year. They are laid bare for a few weeks, however, on August 15th (the Feast of the Assumption).

From Siena we had a hard day's motoring to Rome, 120 miles, the first part in very hilly country, but giving beautiful views all the time. Our route was by the hill-top town of Radicofani, Acquapendente, and the Lake of Bolsena and Viterbo.

The population of Rome in the time of the Romans was said to be a million, but in the sixteenth century it had dwindled to 85,000, and to-day it stands at a little under half a million.

St. Peter's, as a cathedral, is in form similar to St. Paul's Cathedral, London, but is bigger. The length is 710 ft., while that of St. Paul's is 510 ft., and the height of the dome is 405 ft., compared with 365 ft. of St. Paul's. The

interior is most majestic; its two organs are very small, while those of St. Paul's are exceptionally large. Adjoining are the Vatican and the world-famous Vatican Museum.

I suppose most visitors go to the Colosseum as soon as St. Peter's and the Vatican have been seen, and it is certainly one of the most impressive sights in the world. Originally erected in A.D. 80 by Titus, it held 78,000 people (Wembley Stadium holds 120,000), and was therefore the largest place of entertainment in the world.

From Rome we wended our way back to Milan by another route, via Perugia, Florence, and Parma, most picturesque and charming.

The Importance of Road Signals. An R.A.C. Appeal.

The very large increase in motor traffic during the past few years has rendered the proper giving and observation of signals by drivers and riders of paramount importance, as from careful observation the R.A.C. has formed the opinion that neglect to do so is one of the principal causes of accident.

Whenever a driver or rider intends either to alter his course or to decrease his speed he should indicate to the following traffic what his intentions are. When turning to the right the right hand should be extended at full length some distance before the turn is made; and before actually turning

it is advisable to see that no vehicle is overtaking.

When a driver or rider intends to stop he should extend his right arm with the hand lifted well up, and the signal should be given some distance before actually pulling up. When slowing down, especially in traffic, the driver should extend his right arm and wave it slowly up and down a number of times before the operation of slowing off is actually commenced.

Pulling out and cutting in. One of the most prolific causes of accidents is the sudden pulling out from the kerb by a stationary vehicle, or from a line of moving traffic by a vehicle wishing to overtake, without giving warning to those behind. In either case the correct signal is the extension of the right arm by the driver as though intending turning to the right—which in effect is what he purposes doing. To swing out and then give the warning is as bad as not doing it at all. Furthermore, no driver should pull out to pass a vehicle ahead when he is satisfied there is no traffic approaching from the other direction, and a clear road is ensured. There are worse examples of road manners than for one vehicle to overtake another and in so doing to force approaching traffic into the gutter, or to "cut in" in front of anybody else and compel them to slow down or swerve to avoid a collision. The R.A.C. appeals to all road users, whether they be car owners, cyclists, or horse drivers to show the utmost consideration to others.



Left: A halt was made to visit the beautiful Byzantine Cathedral at Padua.



Right: In Rome, our Pullman Saloon by the magnificent Constantine Arch.

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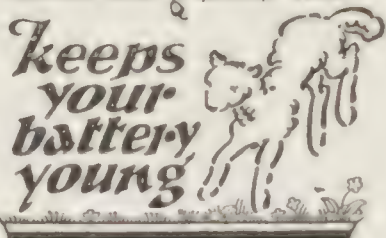
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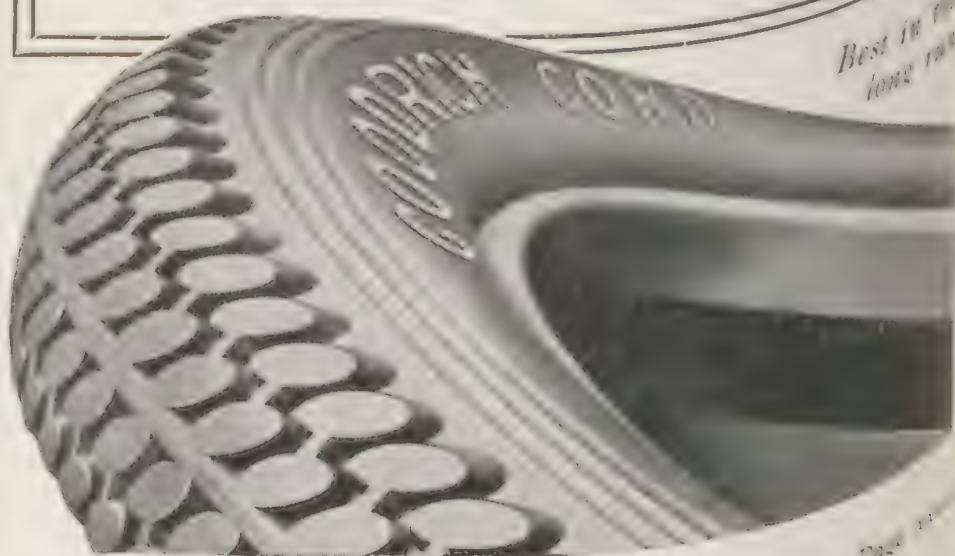
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ON THE TRACK OF TROUBLE

THE broad bands of light which have been guide, philosopher, and friend on the dark road fail, and you are plunged in an ocean of blackness.

If you are just the average motorist you are probably quite at a loss as to how to set about restoring to the lamps their pristine brilliancy. Hitherto, you have found your electric light system so reliable that you have not bothered to learn anything about the installation. Now the fate of the man who ignores the unforeseen is yours. What is the necessary procedure?

As a preliminary, make sure that the acid in the batteries has not run low. A main fuse may have "blown," or a



Apart from the fact that modern automobile electric lighting systems are extraordinarily efficient, they do sometimes fail. A possible cause of failure is a "blown" fuse. Inspect and replace with proper fuse wire.

battery connection come adrift. In the latter event there may or may not be a short circuit. Go carefully over each circuit. The first one may furnish evidence as to why current is not running. Look to the battery terminals first, and then to the connections in the junction box.

The wiring is not so complicated as it appears. Remember there must be a metallic path from one battery terminal, via the various lamps or instruments in the circuit back to the terminal. Your job is to make sure this path is not broken at any point.

For instance, trace out the circuit for the side lamps. A wire goes from the battery to the junction box. From there another wire goes to the side lamp switch, and the fuse of that particular circuit. Examine both, and replace the fuse if "blown" with proper fuse wire. From the fuse a wire runs to one



Make a practice of inspecting the batteries regularly. The maintenance of the acid therein to the proper height will reduce battery trouble to a minimum.

terminal of each side lamp. The current then goes round the filaments to the other terminals, which will probably be connected to the metal of the car frame. This is often used to provide the return path to the battery, so you must finally make sure that the second battery terminal is itself connected to the frame or earth.

Having followed out this one circuit, you will be able to trace them all, for they are theoretically the same.

TRACKING DOWN SQUEAKS.

The beginning of the squeak trouble is usually so elusive that it is difficult to decide whether it comes from the



Squeaks may be traced to vibratory movement between the doors and the bodywork. To remedy this, rub a little thick oil over the affected spot and then wipe off any surplus.

front, rear or side. The help of a friend is of great aid in locating it.

Ask him to turn his head sideways, and cover one of his ears alternately. He will then be able to tell you the general direction of the noise.

Generally he will point to the dashboard, and your attention will be attracted to the spot where the steering column is supported by the dash. The tightening of a screw or bolt will most likely eliminate the trouble. If the steering column is either resting against the woodwork or very close to it, a piece of rubber from an old tyre inserted at that particular spot will effect a cure. If you cannot detect



Another common cause of squeaks is friction between the hinges, flanges, and rusted tape-packing in the bonnet. A little thick oil applied to the source of trouble is an efficient remedy.

where the squeak comes from it may be found that the body is "working" on the chassis. If so, have the attachments tightened up.

The mudguards, although they may seem quite tight, may have worked loose. Give a turn of the spanner to them.

The springs, and the bolts which hold them at the end, are also objects of suspicion.

You will find spring gaiters a profitable investment if you have not already got them. In their absence run over the springs with an oily rag, taking care to clean the dirt off first.

The trouble may be in the bonnet. The fasteners are apt to work loose. There is a long steel rod upon which the two halves of the bonnet are joined together in the centre. Run an oily rag along this, on the inside of the bonnet, and put a drop or two of oil in the little holders which carry the steel rod.

A WORD ABOUT SCOTTISH FERRIES

Scotland as a touring ground for motorists is extremely popular; yet few North Country tourists ever give forethought to the wise use of Scottish Ferries, which frequently save many miles in circular routes. The useful ferry information contained in the following lines should, therefore, prove a helpful guidance to prospective visitors.

THERE is a steadily increasing number of owner-drivers who are beginning to realise and appreciate the supreme enjoyment of spending their holidays "on the road," and not a few of these turn to Scotland as the field for their tour. For this reason a few hints about the ferries on the Scottish west coast should prove a helpful guidance, especially to the driver taking his virgin trip, for he will no doubt have heard various and exaggerated reports of the "trickiness" and dangers of this crude method of conveyance.

To the amateur driver, the sight of a roughly cobbled slipway leading sharply down into the deep blue of the sea, and unfenced at either side, showing a perpendicular drop of perhaps six feet, must surely present a few misgivings—particularly on a wet day when the cobbles are dripping with water and looking as slippery and treacherous as though they had been well coated with "Vacuum A"—or when the tide is low, and it is necessary to embark at the bottom end of the slipway, where the green and slimy seaweed covers every projecting cobble like a thick carpet of wet grass. Such misgivings, however, usually prove to be groundless, for with a little common-sense and capable handling, even the largest car can be accurately manoeuvred on to the two planks lying across the ferry boat—without the necessity of reversing on the slipway. It is this latter operation which, when necessary, gives rise to nervousness in the amateur, for it is no easy matter reversing slowly or steadily over rough cobbles on a gradient, and if he should miscalculate the distance of his rear wheel from the edge of the slipway, or let his clutch in jerkily when near the edge—well, his car will get a free wash—in salt water!

This is not intended to dissuade the new tourist from including any of the ferries in his itinerary; in fact, he would be foolish to do so, for it is on the west coast, where these ferries are, that you get the finest scenery Scotland has to show—which is saying a lot.

The structure and size of the various ferryboats and slipways can be seen from the accompanying photographs—it is only necessary to observe a few simple rules and their negotiation becomes comparatively easy.

Presuming the boat is anchored to the left side of the slipway, as in photo No. 1, you should descend the slipway hugging the right-hand side as closely as you dare until your front wheels have passed a *little lower* than the level of the planks projecting from the opposite side; then turn into full lock, going slowly while you turn the steering wheel so as to get the immediate advantage of the full lock. If your car is anything below 10 or even 12 feet, you will run straight on to the planks without difficulty. The main point to be remembered is: not to turn your steering till opposite the planks; if you do, you will find yourself stuck obliquely half way down the slipway, and probably have to reverse and start all over again. With a car of 14 feet wheelbase or more, some of the ferries cannot be negotiated without reversing. Photograph No. 2 shows an Austin "Twelve" that has assumed the correct position preparatory to reversing—the front wheels *below* the planks, with the rear wheels approximately opposite the direction in which the planks are pointing; a short reverse in the opposite lock and the Austin will be in true alignment to drive straight on to the ferry. It will be noticed from this photograph that the ends of the planks themselves are not resting on the slip-

way, but about a foot above it. This allows for the tilt of the boat as the weight of the front wheels falls on the plank-ends. As soon as the front wheels are safely on the planks or "runners," the ferrymen place wood blocks at the far ends—thoughtful fellows!

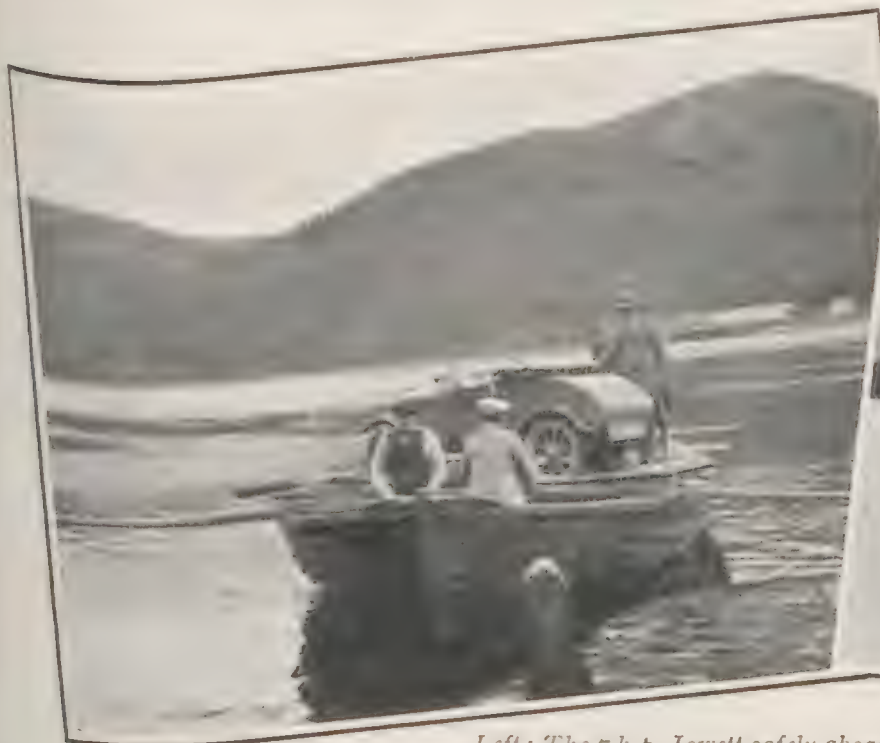
Which reminds me of a rough crossing I once had from Kyleakin during a pouring wet day with a gale blowing from the north-west. The slipway had been very treacherous, and the ferrymen (myself helping) had had to push the car on board, as the driving wheels would not grip. All aboard, they put the blocks in front of and behind the wheels, and away we sailed. By the time we reached the middle of Lochalsh, the sea was rolling fearfully and we also, as we caught the swell alongside. This worried me not till I happened to notice the car was swaying up and down against the wedge-shaped wood blocks, swaying further and further with every roll of the boat—No! we didn't capsize, but we most assuredly might have done. I hadn't left the hand brake on! Which incident may serve to aid others, probably as absent-minded as myself, in the observance of a very simple rule.

The accompanying photographs show the five ferries that the tourist is likely to meet on the north-west coast of Scotland—from the north they are Kylestrome, Strome ferry, Kyle of Lochalsh, Dornie, and Ballachulish.

Any intending tourist should not fail to include this section of the Highlands in his itinerary. The expense and time (for one has often to wait for the tides) spent in negotiating any of the ferries are amply repaid in the enjoyment he will derive from the surpassing beauty of natural scenery that this west coast of Scotland has to offer.

"TOURIST."





Left: The 7 h.p. Jowett safely aboard on Strome Ferry. Right: An Austin "12" finely balanced and on the way to Skye from Kyle of Lochalsh.



Waiting for the incoming tide at Strome. Note the steep gradient and abundance of seaweed at lower end of slip-way.



Kyleakin Ferry shows what a Scottish ferry should be like. It was designed and constructed for the Scottish Motor Club.



A Standard car disembarking from the Kyleakin Ferry. The slip-way is about 1 in 10.



An Austin "12" about to board the Kyle of Lochalsh Ferry. Note the wheel-guiding planks.

THE RULE OF THE ROAD

By A BARRISTER-AT-LAW

As is commonly known, in England the rule of the road is "Keep to the Left," but widespread as the knowledge of this rule is, it is not generally known that the rule is laid down by Act of Parliament and has been the subject of judicial comment on numerous occasions

LIKE most rules, the rule of the road has its exceptions, and, fortunately for the motorist, the Acts of Parliament, viz., The Highways Act, 1835, and the Town Police Clauses Act, 1847, which establish that vehicles on the road shall keep to the left side, provide an exception, namely, that "for actual necessity or sufficient reason" the rule of the road may be broken.

The judges have been very careful in their statements as to what is "sufficient reason" for breaking the rule. Merely because a vehicle happens to be on the right-hand side of the road, it does not mean that any offence against the above-named Acts of Parliament has been committed.

There is not necessarily any rule that a vehicle shall always keep to the left-hand side of the road. Indeed, it is the established custom among many drivers on lonely country roads to keep their vehicles in the middle of the road so as to give full notice of their approach to any traffic which might be about to turn in from side streets.

In certain cases the motorist may deliberately drive on the right-hand side, and it has been said in court that it may be the duty of a driver to drive on the right-hand side where there would be less danger in so doing than in driving on the left.

A few instances of cases that have been tried in the past may serve to illustrate what the law considers as actual necessity, or sufficient reason, for breaking the rule as to keeping to the left.

In one case, a van driver had his vehicle going at a trotting pace on the near side of the road, but 10 feet from the kerb. He kept his vehicle in this position on the road for some two or three hundred yards, owing to the tram-lines which happened to be on that part of the highway. In order to give his vehicle a safer course he was proceeding with the offside wheel of his vehicle in the middle of the tram track. As a consequence of this, other overtaking vehicles were forced to go over on to the off side. The judges in the case held that the van driver had caused no obstruction, and that keeping on the left side of the road did not mean keeping right in

to the kerb. So long as his vehicle left sufficient room for other traffic to pass without danger, and so long as his vehicle happened to be on the left side of the centre of the road, no offence was committed.

In a somewhat similar case, some years afterwards, where a lorry was being driven 10 feet from the kerb on a road 30 feet wide, it was held that no offence was committed, because the offside wheel of the lorry, although very near the centre of the road, was never over it.

There happened to be no other vehicles about at the time, and consequently there was no reason why the lorry should not have been on any part of the highway.

As Mr. Justice Denman said, "There is no such rule of the road as to make the left side always the proper side." If there are no other vehicles about, nor likely to be any, there can be no danger in proceeding on the wrong side of the road, because the essence of the offence of driving on the wrong side is the probable cause of danger to other vehicles. If no danger is likely and no other vehicles are obstructed or prevented from having free passage, no offence is caused, even

though the vehicle is not on the left side.

In a very recent case, the Lord Chief Justice said that a vehicle is not entitled to keep to the centre of the road for a considerable distance without giving other vehicles a chance to pass.

The object of the Acts of Parliament is really to give other vehicles a chance to overtake or to pass in the opposite direction.

Where there would be danger in going to the left and no danger in going to the right, it is quite justifiable to go to the right side of the road. Where there is danger in both directions the motorist is put in a somewhat awkward position and must, of course, proceed with the greatest care. Where there is an obstruction, for instance, on the left side of the road, so that only the right portion of the road is left free, and vehicles are passing, a motorist proceeding on the left would be quite entitled to go to the right, if there were any other vehicles coming in the opposite direction, but where such vehicles are present, the motorist cannot proceed on the right-hand side of the road without giving full warning and advancing with extreme caution.

An illustration of how the rule of the road can be varied was given in a very recent case where a lorry was proceeding along the centre of the road, with its offside wheels on the off side of the centre of the road. An overtaking motor car gave due warning of approach, but the lorry, instead of drawing to the near side, found it more convenient to go further to the off side. The driver of the lorry beckoned to the motorist to pass on the near side. The motorist accordingly did so, and was summoned, but Mr. Justice Channell held that he had committed no offence.

He did not wish to encourage the view that a motorist could always pass on the wrong side, but if the driver of other vehicle on the road was willing to go on the wrong side and allow the motorist to pass on the near side, there was no harm. In this case the Act of Parliament was to protect free passage for all vehicles, without danger, and where there was no danger and no obstruction, the mere fact of being on the wrong side was inoffensive.



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You must stir it and stomp it,
And blow your own trumpet,
Or, trust me, you haven't a chance.*
—W. S. Gilbert.

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THERE IS NO TIME LIKE THE

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MOTORING NEWS OF THE MONTH

Guides as Traffic Controls.

Because of their unique experience of traffic control work, the Lincoln City Council have arranged with the R.A.C. to employ five R.A.C. Guides to assist in regulating the traffic in that town. These men will act in conjunction with the police, but will retain their familiar blue uniform.

More Successes.

In the classic M.C.C. Land's End-John O' Groats Trial two Lea-Francis cars were entered and each gained the premier award of a silver cup. The drivers were Mr. G. W. Wilkin and Mr. R. V. Saltmarsh, and the Lea-Francis cars ran with complete consistency throughout the route of 875 miles.

World's Motor Records.

On Tuesday, July 21st, 1925, Capt. Malcolm Campbell, driving his 350 h.p. 12 cyl. Sunbeam, was successful in establishing new figures for the flying kilometre and mile, breaking world's and international Class A records. The course used was on the Pendine Sands, and the electrical timing was carried out by the R.A.C. The times and speeds were as follows:—

Kilometre.

Eastward : 14.767 sc. =	{ 151.484 m.p.h. 243.790 k.p.h.
Westward : 14.887 sc. =	{ 150.266 m.p.h. 241.831 k.p.h.
Mean : 14.827 sc. =	{ 150.869 m.p.h. 242.800 k.p.h.

Mile.

Eastward : 23.555 sc. =	{ 152.833 m.p.h. 245.954 k.p.h.
Westward : 24.201 sc. =	{ 148.754 m.p.h. 239.390 k.p.h.
Mean : 23.878 sc. =	{ 150.766 m.p.h. 242.628 k.p.h.

A Good Haul.

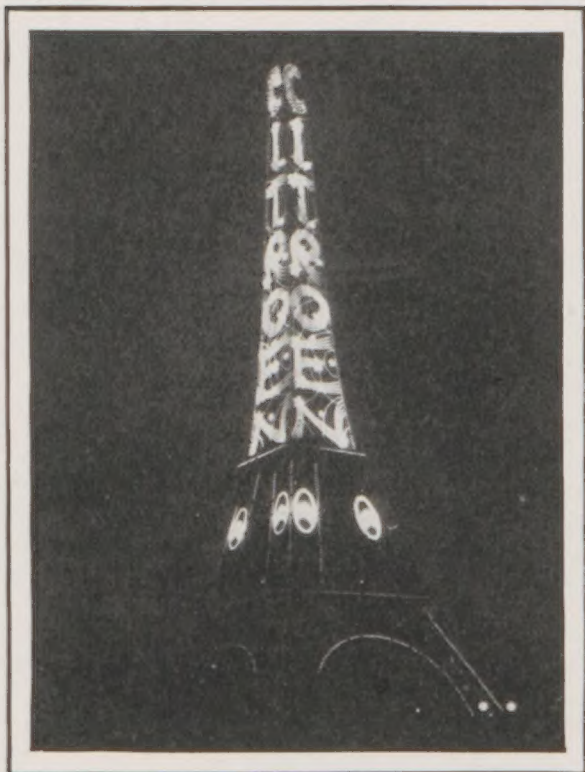
Vauxhall cars in the recent race meeting held by the Royal Automobile Club of Australia on Gerringong Beach were successful in all the events in which they took part.

Mr. Boyd Edkins's 30-98 Vauxhall won the three-miles handicap for touring cars in full touring condition, and the 12-miles handicap for all cars.

Mr. H. R. Clarke's Vauxhall won the scratch race of 24 miles for cars over 15 h.p., this car being one famous in Australian motoring, for it dates back to 1914, and has a long list of successes to its credit.

Eiffel Tower Illuminations.

At first the Tower is outlined in luminous lines, then a certain number of small stars and five or six bigger ones with the tail of a comet can be seen. At the same time bright flames shooting skyward appear at the top of the Tower.



Forty seconds only is the time taken to complete the illumination of the Eiffel Tower. Other extremely interesting details of this wondrous electrical masterpiece are given elsewhere on this page.

The tails of the comets then gradually lengthen, forming the seven letters which make up the name CITROËN. Almost at the same time two signs, red and blue in colour, bearing the dates 1889-1925 (the years the Eiffel Tower has been built) become luminous, and then these are almost instantly replaced by the double chevrons (the Citroën trade mark).

All this happens within 40 seconds, after which time the Tower vanishes into darkness, reappearing 40 seconds later brightly illuminated.

From the technical standpoint we would state that a transforming station has been built at the foot of the south pillar, where a current of 12,000 volts is received.

Three sides of the Tower are illuminated and the total number of lamps used is 600,000.

When illuminated this Tower is clearly visible over a radius of 25 miles.

A General Survey.

An invasion of American motor experts recently arrived at Southampton by the White Star liner *Majestic* from New York. Among their number was Mr. Alfred H. Seayne, chairman of the General Motors Corporation. In addition to inspecting the corporation's subsidiary companies and assembly plants on this side, they will make a general survey of the motor-car situation in England and on the Continent.

A New Agreement.

We have received the following communication from Mr. S. F. Edge:—
"Following on the policy which I

believe necessary for the success of a motor-car manufacturer's business, that is, doing my A.C. car business with the trade, we have entered into an agreement with Mr. Jack Olding (who is already well known in the motor trade) to take over the concession for the sale of A.C. cars in the London area.

"This new company is functioning from what used to be our London showrooms at 55 and 56, Pall Mall, S.W.1, where a full range of models is being kept as hitherto.

"All agency arrangements for the A.C. London District are in the hands of the new company, who will also specialise very largely in part exchange business as well as deferred payment business, where Mr. Olding's wide experience will prove beneficial to everyone."

Paris Inside Out.

Numberless books have been written from time to time upon Paris; some excellent, many bad. It is not often one comes across so useful and intimate a little book upon Paris as *The Gay City*, by Arthur Phillips (Cecil Palmer, 5s. net). There is evidently not much that the author does not know about the charming city by the Seine, which from time out of mind has exercised such a lure for tourists. In his book one gets the life of Paris with the "lid off," and makes the acquaintance in his lively pages of many curious types, and visits equally curious places. There is a great deal of useful and accurate information, very brightly conveyed, which will be useful to the motoring tourist, and appreciated even by those who think they know Paris well.

Motor Legislation Committee.

Sir Alfred S. Mays-Smith, who was president of the Society of Motor Manufacturers and Traders, Ltd., during 1920-1922, and is chairman of the Car Section Committee and the Committee of the Foreign Car Manufacturers and Sole Concessionaires' Section of the Society, has recently been appointed as one of the Society's representatives on the Motor Legislation Committee.

The Society is also represented on that Committee by the President (Sir W. M. Letts, K.B.E.) and Messrs. H. G. Burford, F. Lanchester, S. Straker, and the Secretary (Col. A. Hacking, D.S.O., M.C.).

A Record Lowered.

Dunlop tyres were used by Captain Malcolm Campbell in lowering the record for the flying mile and the flying kilometre at Pendine Sands, Carmarthenshire, in Tuesday, July 21st.

In the French Grand Prix Tourisme, Boillot, first of all categories, had Dunlops fitted front and back. It may be added that the oil used in both cases was Wakefield Castrol.

BROADCASTING BUSINESS BREVITIES

Co-operation.

A most interesting booklet has been issued by General Motors, Ltd., The Hyde, N.W.9, entitled *Co-operation*. It deals with the various cars and their appurtenances for which this wonderfully organised firm are responsible.

Incidentally, it emphasises the fact that the manufacturers do not consider that their responsibility ceases when the car is sold. Every Buick, Cadillac or Chevrolet car delivered to a British buyer carries with it an assurance of skilled attention which will be available throughout the life of the vehicle.

A Change of Address.

We are asked to notify the patrons of Messrs. Dodge Brothers (Britain), Ltd., of their change of address to Willesden Lane, Park Royal, London, N.W.10.

A Guide to Get.

We have received a copy of Philips' *Road Atlas-Guide to Great Britain*. It contains 64 pages of coloured maps, showing the roads on a scale of 10 miles to the inch, and 92 pages of letterpress, including a gazetteer of places of touring interest. This comprehensive guide should prove of great interest to all motorists. It is published by Messrs. George Philip and Son, Ltd., 32, Fleet Street, E.C.4, at the extremely moderate price of 3s. 6d.

Concrete Roads in U.S.A.

The following statistics concerning concrete roads in America have been supplied to us by the British Portland Cement Association.

From January 1st to June 6th, 1925, contracts have been placed for the laying down of 51,080,153 square yards of concrete paving for roads, streets and alleys. During the corresponding period of the three previous years the figures were:—

January 1st—June 10th, 1922, 40,559,281 square yards.

January 1st—June 9th, 1923, 33,241,443 square yards.

January 1st—June 7th, 1924, 41,769,755 square yards.

The figures for this year break all previous records. At December 31st last the total length of concrete roads in U.S.A. already exceeded 32,000 miles as compared with Britain's total of about 250 miles.

Another Wireless Triumph.

It is reported that a wireless amateur at Sale has got in touch with the *Bowdoin*, a vessel in which the McMillan Arctic Expedition is travelling. This may be due to some extent to the fact Mr. McMillan is using Exide batteries.

In a cable to the manufacturers he informs them that



Hailed casually in the Strand by two wealthy Americans, Mr. E. R. Visser, a London taxicab driver recently completed a 2,000 mile tour of England, Scotland and Wales—"just as though on a half-crown trip." All places of interest en route were visited. Shell oil and spirit was used.

for the fourth consecutive time he is carrying Exide batteries, not only for lighting and ignition, but for radio work, both on the ship and on the aeroplane.

Where to Park Your Car.

Parking places for cars in some 250 towns, with the official conditions under which cars may be left, are given in the new edition of the Dunlop Guide published by the Dunlop Bureau, Kingsway, W.C.2, at 5s. A new and up-to-date list reveals that there are 31 official parking places in Central London.

Many town and street plans have been added to the Guide, and to make them more easy to follow when on the road, the paper used is much whiter than in the old edition and impervious to damp.

A list of one-day motor trips from various centres is another new feature which will be useful for the holidays.

British Tyres in Latvia.

How well British motor tyres stand up

to the bad road conditions in Eastern Europe is indicated in a letter just received in England from the War Ministry of Latvia.

The letter is addressed to the Riga agents of the Dunlop Rubber Company, Ltd., and has been forwarded to Fort Dunlop. It states that the Dunlop tyres supplied for military use have been found "entirely satisfactory and suitable for local roads."

Some Fine Results.

In two recent events of surpassing interest K.L.G. plugs have figured prominently. In the Belgian 24-hours' endurance race, the team of Imperia cars, all on K.L.G.'s, finished first, second, fourth and fifth, the leader covering 1,920 kilos in 24 hours. This is a greater distance than was covered by the 1,100 c.c. class cars at Le Mans, and is being claimed as a world record.

At Brooklands J. H. Joyce, in his K.L.G.-equipped A.C., easily broke all test-hill records, finishing the climb at 60 m.p.h.

At Brooklands J. G. P. Thomas, on the K.L.G.-equipped Leyland-Thomas, broke all lap records with a speed of 129.7 m.p.h.

New Production Arrangements.

The Allyne-Zerk system of chassis lubrication introduced into this country by Mr. W. T. Grose, well known in connection with the Wefco spring cover, and sold under the firm name of Equipments Ltd., is now being handled entirely by Tecalemit, Ltd., of 10, Little Portland Street, London, W., with which Equipments, Ltd., has now been amalgamated. Mr. Grose has joined Tecalemit, Ltd., as a director.

The Allyne-Zerk patents and the business of that concern were purchased some months ago by the Bassick-Alemite Corporation, and subsequently changed hands again and were acquired by the Stewart-Warner Corporation, makers of speedometers and Stewart vacuum tanks.

A Visit to the U.S.A.

Sir William Letts, managing director of Crossley Motors Ltd., and Willys-Overland Crossley, Ltd., and president of the Society of Motor Manufacturers and Traders, Ltd., is paying yet another visit to the U.S.A. He sailed recently on the *Adriatic* for New York, and expects to stay about six weeks, during which time he intends to visit the factories in which he is interested and to obtain further information concerning the Automobile industry in the U.S.A.

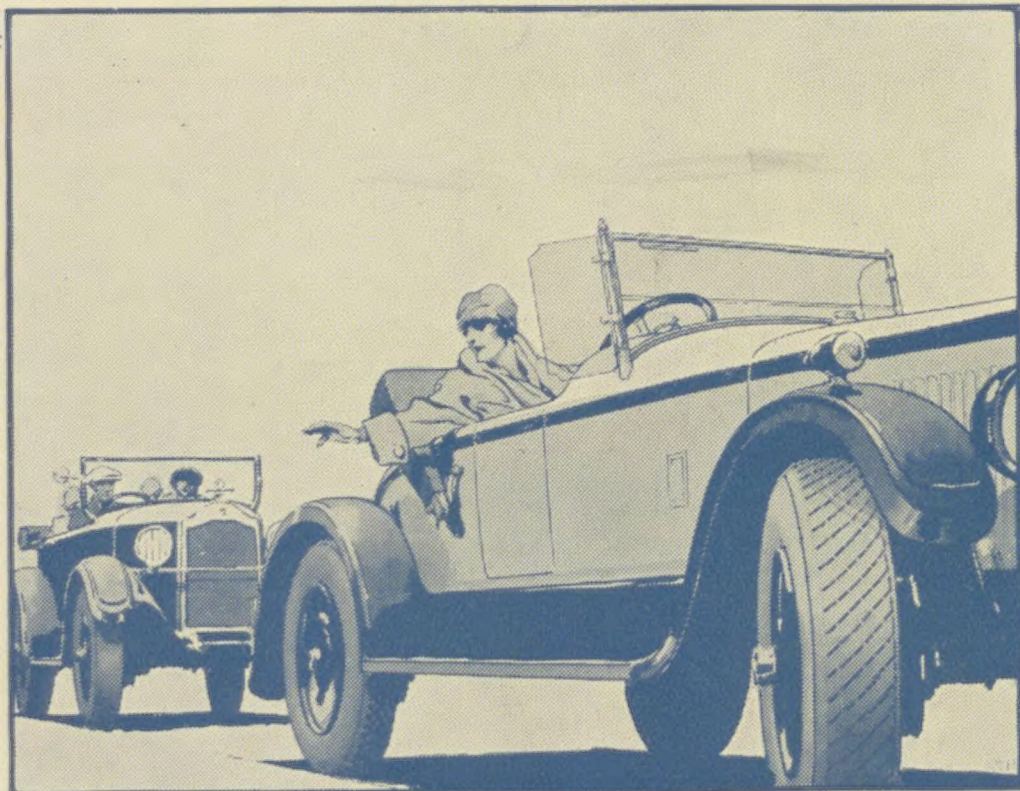


Rated at 25.3 h.p., with eight cylinders in line, four wheel brakes and all the modern mechanical improvements, the new Locomobile Junior-Eight Saloon is a fine example of up-to-date luxury motoring.



What I see on the Road

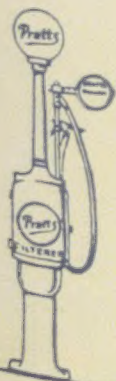
by
Tommy Pratt-kins
OF THE
PETROL PATROL



No 2

The Friendly Warning Signal

BECAUSE practically every motorist pulls up to me to replenish his tank, I hear much motoring talk. A well-known driver was talking the other day while I supplied him with "4 Gallons of the Best"—Pratts—of course. He said that in his opinion many of the present-day road dangers were not so much due to deliberate discourtesy as to forgetfulness. "A driver should remember," was his concluding remark, "that he should not make any move at all without giving ample warning of his intentions to all other road users within sight. He should slow down at corners and signal to the people behind. He should signal his intention to stop. He should sound his horn before turning from one road into another, and always be on the alert for vehicles coming from the opposite direction. And he should always give a hand signal when pulling up for Pratt's Perfection from the Golden Pump or the sealed Green Can."



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— BRANCHES THROUGHOUT THE WORLD